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ABSTRACT

This report of the Canadian Institute of Child Health (CICH) is the third to document indicators of the health and well-being of children and youth in Canada. The report is presented in 10 chapters. Chapter 1 provides an overview of the demographic situation in Canada and introduces the key areas. Chapters 2-5 profile successive stages in child development: pregnancy and infancy, preschool, school age, and youth. Chapter 6 details information on the health and well-being of Aboriginal children and youth. The next four chapters document issues that confront children and youth and their families: income inequity, mental health, disability, and children's environmental health. Each of the data chapters begins with an introduction highlighting the key findings and ends with a guest expert commentary synthesizing findings and recommending action. Two types of charts are provided in each chapter: (1) determinants of health and well-being; and (2) health outcomes. Each chapter also includes explanatory text boxes to provide a brief synopsis of an important issue or offer necessary background information. In addition, areas in which data are needed are identified. Chapter 11 concludes the book with discussions of policy implications, including the issue of entitlements versus privileges. (Contains 240 references.) (KB)

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CANADIAN INSTITUTE OF CHILD HEALTH

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The Health *of* Canada's Children

Third edition

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Erratum

The data presented in charts 8.34, 8:35, and 8:36 in the Mental Health chapter came from the Ontario Child Health Study, 1983 and not from the National Longitudinal Survey of Children and Youth, 1994-95. The full reference to the document should read:

Offord, D., Lipman, E. and Duka , E. (Forthcoming), Epidemiology of Problem Behaviour. To Appear in Study Group Report on Very Young Offenders. Rolf Loeber and David P. Farrington, eds. Sage Publications.

The Health of Canada's Children: A CICH Profile 3rd Edition

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The Health of Canada's Children: A CICH Profile is the result of many years of monitoring, discussing, debating and consensus-building by Canadians from every part of our country. Driven by a common commitment to the health and well-being of children and youth, these diverse individuals from many sectors, including youth, were brought together in meetings, electronically, through correspondence and conference calls, so that their sincere feelings and knowledge could be shared with us all.

In the preparation of the *Profile*, it became evident that traditional health indicators and hospitalization data are insufficient to help us fully deal with a rapidly changing world. New indicators are being sought to better reflect current realities such as recent changes to the health delivery structures, new care and treatments and new health issues arising in different settings such as schools. These new indicators of children's health and well-being are urgently needed to better and more accurately describe the health and wellness of children and youth so that we may make sound recommendations and decisions. Closer links need to be forged among and between sectors such as education, justice and health, to confront, for example, increasing common concerns about children's mental health. And, finally, long-standing inequities must be addressed for children with disabilities, children who live in poor families, Aboriginal families and those living with lone young mothers.

Ultimately, perhaps, this book raises more questions than gives answers. We look to the upcoming years for research to address children's environmental health and the impacts of environmental contaminants as they grow and develop. We look to governments and concerned individuals and groups for legislation and regulation to reflect the special vulnerability of children. We look to industry to respect the needs of growing children and youth and we look to communities to support families with young children in their workplaces, recreation facilities, arts and cultural centres.

The *Profile* is the result of leadership and dedication. Dr. Graham Chance, for many years the Chairperson of the Institute and the current Chairperson of the Profile Advisory Committee, guided and wrestled with the data and its interpretation. Karen Kidder, the project manager and principal author of the Profile, demonstrated a commitment to accuracy, consultation and reliability that went far beyond the ordinary. To these leaders and to the many people recognized in the Acknowledgements, all Canadians who care about the health of children are indebted.

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Message from the Chairperson of the National Advisory Group

The *Health of Canada's Children: A CICH Profile, 3rd Edition*, comes at a time of profound and unprecedented change as we enter the second millennium. Progress that could not have been imagined, even twenty years ago, is occurring in technology, science, exploration, information systems and the arts. In many ways, Canada is "riding on the crest" of this wave: in the last decade we have repeatedly been informed that "We are number one" in reference to the United Nations Human Development Index (HDI). The HDI is computed on life expectancy at birth, adult literacy rate, and adjusted per capita income. It is an adult-oriented index. In recent Human Development Reports, other indices have appeared which paint a less favorable picture: on the Human Poverty Index (1997) Canada was rated number nine of 17 industrial countries, and on the Gender Empowerment Index in 1997, number four: an improvement from number seven in 1996. Thus, while ours is a wonderful country in which to live, being "number one" applies particularly to adult males.

> ***"The relentless pressures of global competition are squeezing out care, the invisible heart of human development."***
>
> UN Human Development Report 1999

Although the majority of children in Canada are physically healthy and are progressively less likely to experience injury, they could certainly be faring better. Judged by hospitalization data, injuries occurring in the home, the school and from involvement in sports remain too frequent. Traffic injuries, that cause most deaths in childhood, are still referred to as "accidents," despite the probability that most could be prevented with improved traffic planning and stricter enforcement of laws relating to children's car seats, seat belt use, speed limits and drunk driving. Research into the prevention of childhood injuries is urgently needed. A world designed by and for adults creates challenges for children attempting to cope, despite their age-based immaturity. The rising prevalence of childhood respiratory diseases, most notably asthma, is another serious cause for concern.

The much-discussed, unanimous 1989 Government of Canada resolution to eliminate child poverty by the year 2000 has surely failed, with a 40 per cent rise in the total number of children falling below the Statistics Canada Low Income Cut-Off point (LICO), by 1997. Child poverty exists essentially as family poverty, the basis for which is income inequity. Income inequity worldwide has risen to obscene proportions, and Canada is no exception. As Dr. David Ross points out, by 1996, the share of market income of the poorest 20 per cent of Canadians had fallen to two per cent of all earned income, while that of the richest 20 per cent of Canadians had risen to 43 per cent. The National Council of Welfare report, *Poverty 1997*, notes that, for some Canadians, poverty is indeed extreme. In its 1999 report *Income and Child Well-Being*, the Canadian Council on Social Development (CCSD) noted a gradient directly related to income for most of the 27 elements of child development examined. For many, the gradient was steeper for children from families with incomes below $30,000 per year, but especially so where incomes fell below $20,000 per year.

Among those experiencing the worst income inequity are children of many of Canada's Aboriginal families, those in lone-parent, mother-led families, children with disabilities, or with parents with disabilities, and children of recently immigrated visible minority families.

There is another poverty challenging Canadian families. The erosive 'poverty of time' that is so destructive of all that family life means for growing children. No stratum of society is unaffected. For most families, two salaries have become essential to meet basic needs. For others, two salaries are necessary for personal advancement or fulfillment, or for maintenance of accustomed lifestyles. As a consequence of this "time crunch," all children in Canada must be viewed as potentially at risk. Indeed, some fall by the wayside and find themselves in the care of their extended families, or in the protection of Children's Aid Societies that struggle on inadequate budgets to offer services appropriate to needs. Others become "street kids", regarded as burdensome to our larger cities and hounded when they beg by our meaner governments. Still others "escape" into drug addiction.

This edition of the *CICH Profile* has two new chapters: children's mental health and children's environmental health. As shown in Chapter 8, children today face many challenges to their emotional and mental well-being. Targeted clinical programs have long since been overwhelmed, making essential the introduction of carefully evaluated school-based, universally available prevention programs. The data available suggest that there are many concerns but inadequate understanding of their causes. For example, boys seem to act out their unhappiness and discontent as aggression at a relatively young age, while girls are more inclined to become withdrawn, at least until puberty. However, with few exceptions, the reports refer to relatively small or inadequately designed studies. There is urgent need for suitable national and provincial reporting systems to develop a strong, evidence-based picture.

Chapter 10 will introduce many readers to what has been a very neglected aspect of children's health to date. At CICH, we believe that the environment must be viewed as the ultimate health determinant. We all live in a polluted world; those in poorer areas, industrial parts of the country, and in proximity to major highways and interchanges are especially exposed to pollutants, but no one is escaping them. Rural families continue to be exposed to pesticides. Even children in the once pristine North acquire contaminants in utero, as they are breast fed, or as older children when they participate with their families in country foods. Hazardous substances such as lead, PCBs and DDT that were formerly used, persist in all our environments. The fact that the endocrine and immune systems and the developing brain are susceptible to these ubiquitous pollutants must be viewed with major concern.

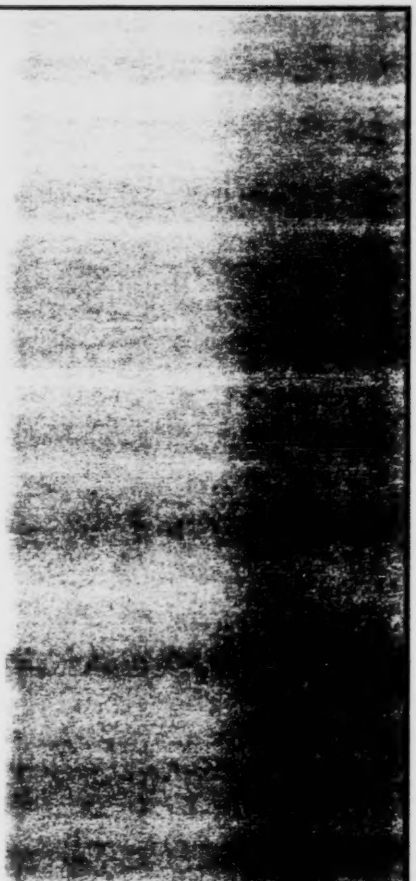
Progress that, in the past, resulted in improved health, was in many instances achieved through exploitation of natural resources. But there was a limit to that exploitation which, in many cases, now seems to have been exceeded, resulting in ecosystem failures, global warming and loss of biodiversity. Canada, number one on the HDI, is a "guilty party" in this regard. The 1999 UN Human Development Report notes that of the 45 countries with the highest development worldwide, Canada has the second highest per capita sulphur dioxide emissions, electrical consumption, spent fuel and hazardous waste production, and ninth highest carbon dioxide emissions. Environmental degradation can only worsen as the developing countries industrialize and attempt to emulate the North American "good life". While humans will, to some extent, adapt to global temperature change, time is not on the side of the earth's ecosystems.

I have painted a distinctly bleak, but factual picture. There are solutions that will not be simple and that will require radical rethinking of our approach to economic growth, globalization, and stewardship of the environment. First, we must cherish children fully for who they are today, recognizing their entitlements and acknowledging the future to be theirs rather than ours. Today's adults, our policies, personal practices and attitudes must reflect this. Children, especially young children, learn primarily by example, particularly that set by adults. If we wish a better future for children we must "walk the talk" of renewal and sustainability. As John O'Neill points out in his book, *The Missing Child in Liberal Theory*, adult society, especially that segment which profited from the economy of the late 60's through to the early 80's, must recognize that we are covenanted to today's young.

The CCSD data referred to previously indicate that the effects of child poverty on child development would be greatly reduced if family income to support children, from whatever sources, were to be adjusted to the level of the LICO. It is not healthy family policy to accept dependence on food banks as the norm for over 790,000 people a month, 40% of whom are children (Hunger Count, 1999). Nor is it acceptable to adopt policies that result in essentially punitive circumstances for most single parent women with children. That the rate of employment of such women doubles as their children reach school age indicates that, for many, the decision to stay at home is based on the lack of affordable quality childcare. Thanks to research, the importance of children's early formative years is now established. Québec has recognized this by planning to make quality child care available for all families. High quality, developmentally-based childcare should be a universally available choice for all families in Canada. For older children and youth, free or minimal cost after-school programs including recreational and other activities, which would facilitate further learning, and social and behavioural growth, need to be made widely available. College and university education without accumulation of massive debts should also again become a possibility for older youth and young adults. Affordable housing needs to be made available. Inadequate and expensive rental housing drains incomes of the working poor and those on supplements, leading to poor child health and the establishment of ghettoes in the larger cities where a criminal element can flourish.

When young children are loved and nurtured consistently they begin to develop that resilience which is so essential to cope with life's setbacks. To facilitate such care, family-friendly work place policies need to be set in place for all levels of income and all sizes of business. Children need to be taught how to discern adverse influences in their lives. In this regard, courses in media literacy are especially important; yet, in some jurisdictions, they are being reduced or eliminated. Subjects such as art, music and recreation are important for development of the spiritual nature of children as whole persons. The trend to focus on learning the three "R's" to the exclusion of other subjects must be viewed with concern. The distress and deteriorating emotional health that so many children experience are frequently recognized by their teachers and peers, and evidenced in worsening school performance. Moreover, when non-judgmental help from school-based social workers is made available, children will often seek help. There is need for the development of methods to detect early signs of deterioration and for improved availability of school-based, preventive mental health services.

The UN Convention on the Rights of the Child, for the first time, clarified for adult society its responsibilities to children and their families. While Canada ratified the Convention in 1991, our tardiness in applying its principles comprehensively becomes particularly apparent in our treatment of certain vulnerable groups in our society. The children of Canada's Aboriginal peoples



are one such group. Mainstream society is not trusted and, other than funding, has little to offer to help resolve the profound pain and hurt that it inflicted upon them for generations. Recent years have seen a move toward self-healing. Recognizing the enormity of the debt owed, this healing must be facilitated where and whenever possible, but always respecting both the strengths of traditional teachings and need for Aboriginal self-efficacy. Children with disabilities are also excessively represented among those in poverty but, for them, much that is offered is viewed as privilege, rather than entitlement, as recognized in the Convention. For example, all child care facilities and schools must be adapted to enable all children ready access, and all necessary assistance to promote learning, recreation and sports activities.

Children, particularly the very young, are especially vulnerable to environmental contaminants. There is urgent need for better understanding of the risks to children's health created by the vast number of chemicals now in circulation. To halt environmental degradation and minimize adverse effects of pollutants and toxicants will require massive attitudinal change, especially by those of us living at advantage in the industrialized countries. "Globalization" has become the mantra of this age. Yet globalization without attention to the health of the biosphere, or to sustainability of development is clearly a recipe for disaster.

My exposure to the wisdom of Aboriginal teaching tells me that we owe our existence today to the learning and wisdom of the seven generations that came before us. But these same teachings insist that while planning for, or undertaking today's activities we must consider the possible impacts on the seven generations yet to come. For much of North American society today, careful consideration of potential impacts on even two generations ahead would almost be revolutionary and would give cause for hope to its children. While control of environmental degradation will depend on the insightful actions of government at all levels, in most instances, success will also depend on actions of individuals and the communities they comprise.

While using the *CICH Profile*, the reader will recognize many areas where there are knowledge gaps or where we have called for necessary research. It is our hope that Canadian researchers will accept our challenges to pursue as many of these as possible. However, there are many aspects concerning the health and well-being of Canadian children for which the evidence is clear. They demand coordinated actions by all levels of government and by communities, in the form of new policies, collaborations and services, and new attitudes to children and youth and to their place in our adult-oriented society. Having reflected on this evidence, in the final chapter we offer some concrete suggestions on appropriate actions.

I would sincerely like to thank the members of the National Advisory Group for willingly sharing their time and expertise. They have helped to ensure that this third edition of the *CICH Profile* lives up to the high standard of its predecessors, and responds to the many constructive comments that CICH received from those who evaluated it.

Graham Chance
June, 2000

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Introduction

History of *The Health of Canada's Children: A CICH Profile*

In 1989, the Canadian Institute of Child Health (CICH) published the first edition of *The Health of Canada's Children: A CICH Profile* and helped change the way people in Canada thought about children and youth. This publication provided, for the first time, a comprehensive picture of child morbidity and mortality in Canada. It demonstrated the overall needs of children and the high burden of suffering from childhood injury.

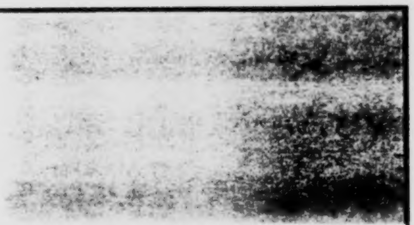
Over the next five years, CICH expanded their reporting on child health to include a wider array of indicators, such as information about social and emotional health and well-being. In 1994, the second edition of *The Health of Canada's Children: A CICH Profile* was published. This document highlighted the mental and emotional health of children and youth and illustrated gender differences. It also raised awareness about issues of maternal and infant health, and succeeded in putting child health and well-being on the public agenda, while stimulating the development of new policies and programs.

As we enter a new millennium, a time for achieving goals and living up to promises to ourselves and others, it is more important than ever that we have accurate, timely information about the state of our children's health and well-being. The third edition of the *CICH Profile* builds on the work of past editions to present a more comprehensive picture of child health and well-being. In addition, it identifies significant gaps in the available statistical data, especially in areas such as children's mental health and the impact of disabilities on the lives of children and youth.

The Process

The Health of Canada's Children: A CICH Profile, 3rd Edition is the result of a comprehensive process of expert consultation and review, designed to ensure accuracy, reliability and overall usefulness. Because this process is so extensive and so participatory, CICH is confident that the content of the book is credible and dependable, and reflects the views of leading experts on child health in Canada. This process began with a series of needs assessment surveys. The purpose of these surveys was to determine the need for a third edition, to identify information needs, and to elicit recommendations on how to improve the book. Support for a third edition in a similar format to earlier editions was extensive. Readers told us that they valued the broad scope, the emphasis on reliable and accurate statistics, and the accessible, easy-to-read format. Readers also indicated that accessible information regarding the implications of the data would be of value. As a result, the third edition of the *CICH Profile* includes chapter commentaries, written by guest writers (their names are found in the acknowledgments), which highlight areas of concern and propose courses of action.

After the needs assessment phase, CICH engaged in extensive consultations with experts in child health from across the country. This process was designed to ensure that all of the information (whether statistical or textual) was accurate, reliable and useful. A multi-disciplinary National Advisory Group was formed (the names of members are found in the acknowledgments), who reviewed drafts of the third edition, identified gaps and recommended additional



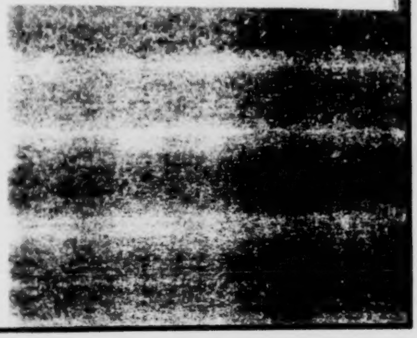
Our Vision

We want all children and youth to feel loved, be safe, be confident and be well.

We want our communities to promote the fullest health and enjoyment of childhood and youth.

We want our society to protect all the rights of children and youth in a sustainable environment.

Canadian Institute of Child Health



indicators. They ensured that the content of the third edition of the *CICH Profile* was timely, useful and comprehensive. Multi-disciplinary Expert Groups were also formed for the chapters on income inequity, mental health, disabilities and environment (again, the names of members are found in the acknowledgments). The role of the Expert Groups was to review indicators, to identify additional indicators and data sources, to assist in the interpretation of data, to review drafts of chapters and to offer advice on matters requiring particular expertise. These groups were indispensable to the production of this document. The book went through three separate reviews. One result of these consultations was the decision to reformat the book, organizing the indicators in terms of determinants of health and health outcomes.

In addition to the expert consultations, CICH convened two Aboriginal Roundtable meetings, including representatives from First Nations, Inuit and Métis organizations from across Canada. Like the members of the Expert Groups, the Roundtable participants reviewed drafts of the third edition, identified gaps and recommended additional indicators. They also provided important guidance in terms of the approach to the chapter on Aboriginal children and youth. For example, they emphasized the need to provide a historical context in which to interpret statistics on Aboriginal child health. As a result, the chapter about Aboriginal children and youth includes a discussion of the historical context that is written by an Aboriginal guest writer, Mr. Schuyler Webster. Roundtable participants also emphasized the need for better survey and census data on Aboriginal Peoples and for more community-level data.

Last but definitely not least, youth consultations were held to elicit the voices of youth and to offer insight into youth perspectives on matters pertaining to their health and well-being. These youth voices are presented primarily in the chapters on school-age children, on youth and on Aboriginal children and youth.

How to Read this Book

Terminology:

"Gender", a term which refers to socially constructed identities based on biological sex, is an important determinant of health. As such, CICH decided to use the term "gender" instead of the term "sex" consistently throughout the book. For example, hospitalization rates are reported by age and gender, rather than by age and sex. The intention is to highlight the social, rather than the biological, implications of outcome differences between boys and girls, young women and young men.

"Health" was once narrowly defined as the absence of illness or disease. This definition has been replaced with a view of health as a set of positive attributes that serve as resources for living. The term "health" is now often partnered with the term "well-being." In support of our holistic approach to the child, CICH uses the term health in its broadest sense.

"Youth", a term used to describe the transitional years between childhood and adulthood, is defined differently by different organizations and individuals. For the purposes of this book, youth are usually defined as children aged 15 - 19 years. However, children as young as 12 are occasionally included in the chapter on youth, depending upon the issue being discussed.

Approach:

Indicators

Because health and well-being are not themselves observable and measurable facts, it is necessary to identify indicators that describe aspects of health and well-being. To be a health indicator, research must have shown a strong relationship between the condition the indicator describes and differences in health status. Indicators can report quantitative data (such as how many babies were born of low birth weight in a given year) and qualitative data (such as how many young people felt satisfied with their body size in a given year). Indicators can represent determinants of health (such as poverty) or health outcomes (such as behavioural problems). Some indicators are so strongly associated with an aspect of health they are referred to as markers (for example, self-esteem is considered a marker of mental health). The use of indicators makes it easier to monitor trends over time or variation by factors such as age, gender and region. Indicators are particularly useful when monitoring health status at the population level. The *CICH Profile* reports on a wide range of health indicators, drawing on reliable, validated data sources. Every effort is made to ensure that the indicators are clearly presented and easy to understand.

Determinants of health and health outcomes

Social, economic and political factors, psychological, genetic and biological factors, personal health practices, community resources and the physical environment all shape the health of children and youth (Federal, Provincial and Territorial Advisory Committee on Population Health, 1994). As such, these factors are described as "determinants of health". A health determinants approach focuses on the health of populations, rather than individuals, investigating trends and variations within populations. The explanation often lies in inequitable access to the determinants of health (due to such factors as gender, family income and ethnicity). Although the terminology can be intimidating, many determinants of health are familiar to us all - nutritious food, feeling loved, a safe home.

The measured aspects of health and well-being are described as "health outcomes". The same indicator may sometimes be both a determinant of health and an outcome. For example, childhood emotional problems may be viewed as an outcome, shaped by determinants such as gender and income. Childhood emotional problems may also be viewed as a determinant, influencing the rate of social impairment in children.

Child development

The Health of Canada's Children: A CICH Profile, 3rd Edition is organized around a child development perspective. It describes what children need from their social and physical environments at different ages to develop healthily.

Putting the book together:

The book is divided into ten chapters. The first gives an overview of the demographic situation in Canada today and introduces the key subject areas of the book. The next four chapters profile successive stages in child development: pregnancy and infancy, preschool, school age and youth. Next we present information on the health and well-being of Aboriginal children and youth.

The final four chapters deal with issues that confront children and youth and their families: income inequity, mental health, disability and children's environmental health.

The charts in the first nine chapters are divided into two parts. The first deals with determinants of health and well-being. The second deals with health outcomes. There is some overlap in these categories because some outcomes can also be determinants for other outcomes. The determinants and outcomes described in these chapters were selected on the basis of the data's availability, accuracy and usefulness. No causal relationship is established between them.

The chapters include explanatory text boxes, generally serving one of two functions. Sometimes, they provide a brief synopsis of an important issue that cannot be easily presented in terms of statistics; other times, they offer background information necessary to interpret other charts. The chapters also include "Question Mark" charts consisting of a map of Canada with a question mark superimposed upon it. These highlight areas where data, from surveys or other sources, are urgently needed. The purpose of the question mark tables is to raise awareness, stimulate discussion and promote positive action.

Each chapter begins with an introduction that highlights the key findings and ends with a guest commentary, written by a leading expert in the field, that synthesizes the information and addresses the question of what must be done. These commentaries orient us to the future and address issues of social responsibility.

The Data

Information for the *CICH Profile* comes from traditional sources such as census data, vital statistics (births and deaths), and hospitalization data. It also comes from population-based national and provincial surveys. Some non-population-based survey data are also presented to stimulate discussion and future research.

Census data, vital statistics and hospitalization data

The hospitalization and death data, reported in the four developmental chapters, are usually presented in three ways:

- by province and territory
- by leading cause (and by gender)
- over time (and by gender)

Exceptions to this include injury hospitalization data, which are presented by province/territory and by leading cause, but not over time, and injury death data, which are presented only by province/territory.

In some death, hospitalization and injury charts, the Northwest Territories (which for the book's purposes includes both the Northwest Territories and Nunavut) and the Yukon have been reported as a single population. This is because the relatively small populations of these territories can result in misleading rates. When the populations of the two territories are combined, they are roughly comparable in size to that of Prince Edward Island. This is a short-term solution for the purposes of this book. In the long term, there is a need for Statistics Canada to increase the size of their samples in the Territories. This would increase the accuracy and reliability of the territorial rates.

The Canadian Institute of Child Health, working with data from the Canadian Institute for Health Information, grouped injury hospitalization data into categories. The "ICD9 Codes" (International Classification of Disease, 9th Revision), that were grouped, are indicated in the chart to ensure clarity and to permit researchers to make the best possible use of the information.

The fact that the provinces and territories have very different population sizes should be remembered when interpreting the charts. The significance of population size in terms of interpreting fluctuations can be important. For example, a small change in the death rate of an age group in Ontario would represent more people than a similar rate change in Prince Edward Island. Similarly, a small number of additional deaths among children would result in a more significant change in the child death rate in Prince Edward Island than the same number of deaths would in Ontario. Thus, fluctuations in rates are more common, but not necessarily as meaningful, in smaller populations than in larger ones. Differences among the provincial and territorial health care systems are also reflected to some extent in the hospitalization data.

Provincial and Territorial Populations:

NF	137,321	MN	294,395
PEI	32,356	SK	280,714
NS	220,130	AB	749,242
NB	177,379	BC	904,806
PQ	1,685,357	NWT	24,917
ON	2,690,181	YK	8,840

Source: Statistics Canada. 1999. *Annual Demographic Statistics 1998*.

Overall, hospitalization data must be viewed as a rough measure of illness and injury in children. The restructuring of the health care delivery system has resulted in a trend towards treatment outside of hospitals, further reducing the capacity of hospitalization data to accurately describe the patterns of illness and injury among children and youth.

Population-based national surveys:

The National Longitudinal Survey of Children and Youth (NLSCY), conducted by Statistics Canada for Human Resources Development Canada, is designed to measure child development and well-being in Canada. The first cycle was conducted in 1994-95. It collected information on approximately 23,700 children (birth to 11 years of age), asking questions of the child's primary caregiver (almost always the mother), the child's teacher and, in the case of children aged 10-11, the child. The NLSCY will survey these children every two years until they reach adulthood. New infants and toddlers will be introduced at the start of each new survey cycle. Through the NLSCY, information on a wide range of health and well-being indicators has become available. Aboriginal children living on-reserve were not included in the NLSCY.

The National Population Health Survey (NPHS), conducted by Statistics Canada, was designed to measure the health of Canada's population. A cross-section of information is obtained by surveying all members of the survey households, aged 12 years and older (58,000 individuals). Longitudinal information is obtained from one respondent per household (18,000 individuals). Data were first collected in 1994 and is being collected every two years. Data from the NPHS are used extensively, particularly in the chapters relating to mental health and disability during childhood. (It is important to remember that the NPHS is not a disability survey and can only provide limited information on the types of disability experienced by children and youth and the impact of disability on their lives and the lives of their families.) A new disability survey, such as the Health and Activity Limitation Survey conducted by Statistics Canada in 1991, is urgently required to address these issues.

Canada is a participating country in the Health Behaviour in School-Aged Children Study (HBSC), a World Health Organization (WHO) cross-national study. The HBSC survey was administered in 1989-90, 1993-94 and 1997-98, and, in Canada, over 6,000 students in grades 6, 8 and 10 were surveyed on each occasion. The HBSC provides unique information about the health and well-being of young people in Canada, particularly in areas such as mental health, school experiences and home life.

The First Nations and Inuit Regional Health Survey (FNIRHS) is a broad-based survey of First Nations and Inuit children, youth and adults. Some of its questions approximate those of the NLSCY, allowing comparisons. The FNIRHS was designed and implemented by First Nations and Inuit people. Similarly, the findings were analyzed by First Nations and Inuit people. The response rate for the FNIRHS was 95%. This high response rate is of particular importance as Aboriginal populations are under-represented or excluded in research such as the census, the NLSCY and the NPHS, as well as other national surveys. The FNIRHS contributes to the development of regional level data on the health and well-being of Aboriginal children and youth. Out of respect for the FNIRHS process, where the Canadian Institute of Child Health has included data from the FNIRHS, we have also presented the FNIRHS interpretation.

Other surveys and databases:

Information from provincial surveys, such as the Adolescent Health Survey in British Columbia or the Ontario Student Drug Use Survey, is also presented when national data on an important issue are unavailable. The sample sizes of these provincial surveys are sufficiently large and the data are statistically reliable and valid. Beyond surveys, there are databases that could be of enormous benefit to researchers, planners and policy-makers if they were standardized (for example, child welfare data).

Information from the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) is presented in the developmental chapters and the chapter on income inequity. CHIRPP gathers information relating to visits to hospital emergency departments as a result of injuries. Fifteen hospitals participate in CHIRPP, of which 10 are paediatric. CHIRPP provides valuable data on childhood injuries, but the Auditor General of Canada noted in its 1999 report that three provinces are not fully represented in the system and coverage of rural child injuries is limited.

The third edition of *The Health of Canada's Children: A CICH Profile* also includes several charts from small, non-population-based studies. Although the results of these studies cannot be generalized to the population as a whole, they raise important issues that need public attention. For the reader's information, the sample size is included in the charts developed from non-population-based studies.

The Charts

The charts have been standardized as much as possible to ensure that the presentation of the material is as clear as possible. As the Statistical Compendium, previously published as a companion to the *CICH Profile*, has been discontinued, the data used to create the chart is provided in the chart.

- When the chart is presenting percentages or proportions, the vertical axis is either 100%, 50% or 10%. This allows the reader to more easily compare charts.
- When the chart is presenting information by province and territory, the figure for Canada appears in a shaded circle within the chart.
- When the chart is presented by province and territory, the Northwest Territories and the Yukon are sometimes combined. This is to ensure an adequate population size.
- All of the information used to create the chart is presented. For example, with bar graphs, the figures appear directly over the bars. With line graphs, the figures appear in a box below the graph.
- Where possible, the sample size has been included in charts (N=#). The number is often important information in interpreting the chart.
- The sources are reported under the charts, with the full citation available in the references.
- Notes from the original sources are presented, along with any other required notes.

CICH is committed to presenting data in a clear and accessible format.

Guiding Principles

The Canadian Institute of Child Health recognizes the need to link data to action and, thus, help our society move towards a healthier future. Our guiding principles for this document connect us continuously to this objective. They remind us that any interventions for the healthy development of the child, if they are to succeed, must reflect the complexity of the lives of children, recognizing that they are embedded in family, school, community and the social structures that shape society. The guiding principles reflect the wisdom we have acquired over the years in our efforts on behalf of children and youth:

- **Ground the document in child development while maintaining a holistic approach to the child.**

  Because child development is an interactive process, it is important to maintain a holistic approach. Further, children are not small adults and the determinants of health that have an impact on their lives can only be understood within a child development framework.

- **Recognize sensitive points in the development of children.**

  There are sensitive points in the development of children where risks may arise, opportunities may appear or interventions may be particularly effective. The risks, opportunities and interventions will help or hinder children and youth, both in the present and in the future. The sensitive points and pathways to healthy development may differ for girls and boys and there may be cultural variation in the ways that developmental transitions are interpreted.

- **Acknowledge that children are important as children.**

  Children are important not just as the next generation of adults; they play a role in shaping their own lives and they contribute to their families, their schools and their communities. Strategies must target improving children's lives now just as much as they aim to improve their futures. Strategies must recognize children's rights as articulated in the UN Convention on the Rights of the Child.

- **Adopt a population-based approach that clearly recognizes the complexity and diversity of children's lives.**

  A population-based approach includes everyone and has the potential to reach all children, youth and families and still direct attention to the most vulnerable, the most at-risk. A population-based approach can be used to develop a detailed picture of children and youth that recognizes their multifaceted, multidimensional lives.

- **Define health broadly to include wellness issues.**

  Negative indicators report on how poorly children and youth are doing (for example, how many children are injured every year). Positive indicators look at how well children are doing (for example, how many children aged 5-6 years are ready to learn). In building a well-rounded understanding of the health of children and youth, both negative and positive indicators are needed.

- **Focus on critical issues.**

  Critical issues drive policy development. A focus on critical issues ensures that the document has the greatest possible impact. This means paying enough attention to the most vulnerable children.

- **Build on and foster awareness of Canada's regional, ethnic, linguistic, cultural and religious diversity.**

  The population of Canada is increasingly diverse. Strategies to improve and promote the health and well-being of children and youth must be flexible and responsive to community-level needs.

- **Focus on prevention and health promotion.**

  Primary prevention seeks to avoid the onset of disease by eliminating or, at least, minimizing environmental factors and unhealthy behaviours that increase the risk of death, illness and injuries. Health promotion creates the environment whereby individuals are able to reach their highest potential for health. Strategies must include how one would like things to be in the future, reducing disease and setting goals for the promotion of health.

- **Recognize the major changes that have occurred in the health care system.**

  The restructuring of the health care system has changed the way that care is provided. Statistics on hospitalization must be interpreted in the light of these changes and strategies must be revisited and revised.

- **Identify important issues in the book even where available data are incomplete at this time.**

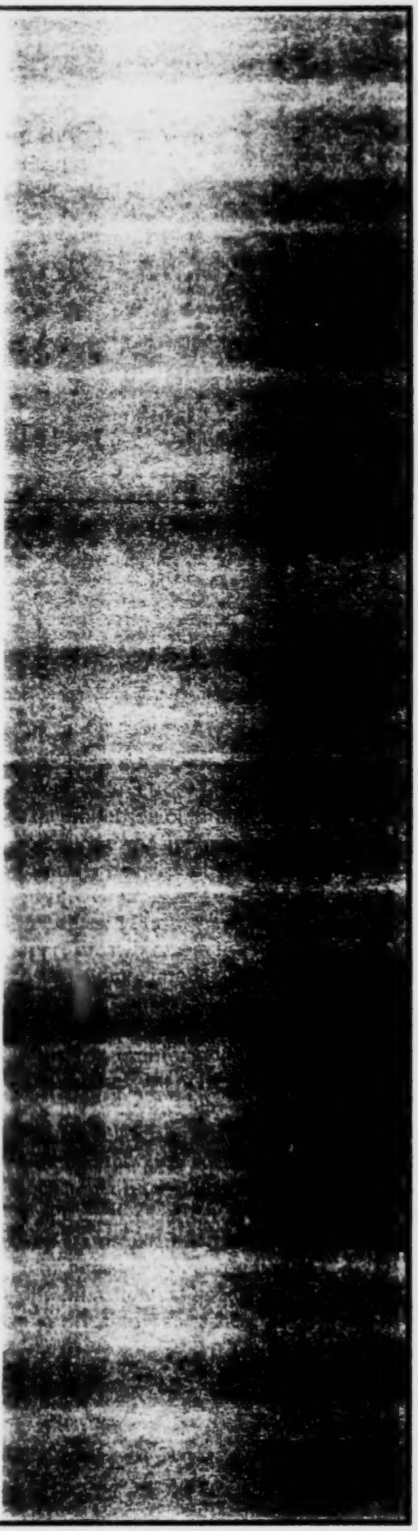
  The Precautionary Principle urges action in the best interests of children based on the information available at a given point. In regard to widely distributed environmental toxicants, to wait for absolute and conclusive research can potentially put a generation of children at unnecessary risk.

- **Recognize the disparities that exist for children and youth in Canada.**

  Data needs to be presented in such a way that the disparities within Canada are made visible. Disparities may be regional or economic or they may be related to ethnicity, disability status or gender.

In Conclusion

The Canadian Institute of Child Health is committed to monitoring the health and well-being of children and youth in Canada and to disseminating reliable, comprehensive and current information to a broad audience. This commitment is fulfilled in part through publishing *The Health of Canada's Children: A CICH Profile.* The third edition of this document, while reflecting CICH beliefs, is a product of an extensive consultative process, involving experts in a wide range of fields relating to child health from across the country. While this process contributes to the comprehensiveness and reliability of the document, it also ensures a dynamic exchange of ideas. We hope that this book is useful to everyone interested in creating a healthier, safer world for children and youth.



Chapter 1

Overview

Who are the children and youth in Canada?

Briefly characterizing children and youth in Canada is challenging. More and more, they and their families live in large urban centres. But a significant minority also lives in rural, sometimes remote, areas. Some of Canada's children and youth live on reserves. The children and youth of Canada speak many languages at home in addition to Canada's two official languages, English and French. They come from diverse ethno-cultural backgrounds. Some are new to Canada. Some arrive as refugees. Due to changing patterns of immigration, children and youth who belong to a visible minority represent a growing demographic group. Accommodating diversity and adapting to on-going change are important skills for all people living in Canada at the beginning of the new millennium.

What kinds of families do children live in?

Although the clear majority of children live with two parents, a significant minority lives in lone-parent families, and a small number of particularly vulnerable children do not live with either parent. Female lone-parents consistently outnumber male lone-parents more than five to one. The terms "two-parent family" and "lone-parent family" conceal significant diversity in family structure and family paths. Whatever their current family structure, many children have experienced one or more restructurings of their families, which occur as a result of marriage, separation, divorce and death. Changes in family structure may also involve the introduction of step-siblings.

How do they spend their day?

Most parents work outside the home and, as a result, the majority of young children spend their day in non-parental child care arrangements. Once children reach school age, some combine school with after-school programs or other non-parental care arrangements. Childcare has traditionally been the private concern of the family. Lacking government leadership, the childcare system in Canada has been characterized by space shortages and quality problems. Regulated, affordable, high quality childcare is available for one in ten children in Canada. Most families must scramble to make arrangements for care in the unregulated sector. Given all the time children now spend in childcare, developmentally-based, universally available programs in safe environments have become essential. It is clear that parents need more and better childcare options.

Are they safe and secure?

The proportion of children who experience threats to their safety and security is not known. However, there are a number of ominous trends. Children and youth are one of the fastest growing segments of the homeless population. Children and youth are found in shelters of all kinds, including emergency shelters and shelters for women leaving abusive situations. Many children have witnessed violence against their mothers and many have experienced abuse themselves. Every year, children and youth are reported missing. The vast majority of these missing children are runaways. A small proportion of missing children are abducted by a parent. Only a very few are abducted by a stranger. Society must better support families so that they can better care for their children.

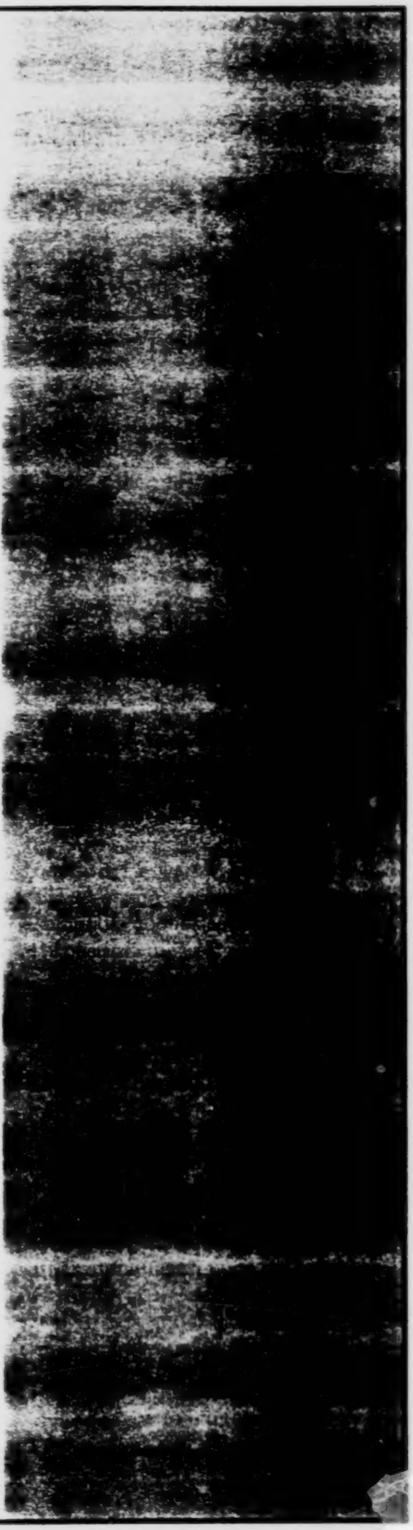
What is the socio-economic context? How has it changed?

Income inequity is an important determinant of population health and well-being. Being poor in a wealthy country undermines health and well-being. Incomes are polarized in Canada with many people living in conditions of relative hardship. Families with young children are particularly at risk for low income, and vulnerable to its negative effects. Children from families with the lowest incomes are, in general, at the greatest risk, experiencing, for example, higher levels of behavioural and emotional problems. An enormous difference could be made by supporting families with low incomes. Ensuring housing and food security, basic determinants of healthy child development, would be a first small step in this direction.

In a climate of economic uncertainty for many families, most two-parent families elect to have both parents in the workforce. Many lone-parents are also engaged full-time in the workplace. These parents, engaged in a wide range of occupations, often work long hours to support their families. Many have long daily commutes. As a result, parents and their children find their time together limited. Children and youth, however, need parental affection, attention and supervision. Parents need support from their governments and their employers if they are to find time to spend with their children.

How does the physical environment affect children and youth?

Because their bodies are immature and rapidly developing, children are particularly vulnerable to environmental contaminants. Children's activities often increase their exposure to harmful contaminants and their physiology increases their uptake of these contaminants. For example, children spend more time outside than adults. Children absorb more contaminants relative to their body weight than adults. Some contaminants may interfere with the healthy development of the respiratory, neurological and endocrine systems. Indoor air quality has been identified as a potential contributor to the increased prevalence of reported asthma. Research also suggests that both indoor and outdoor air quality may affect the frequency and severity of asthma attacks.

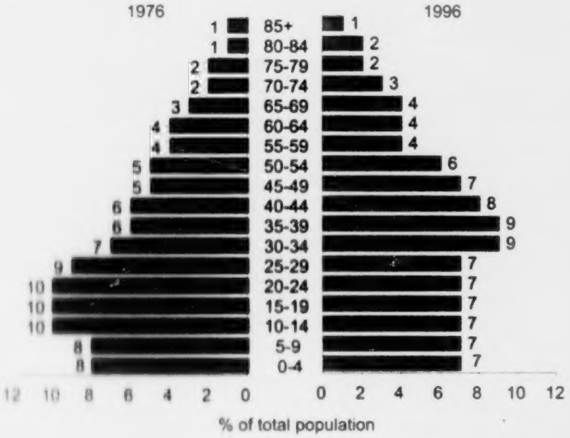


Population

Despite the baby boom "bulge" clearly evident in the population age distribution, children and youth continue to represent a sizable proportion of the overall population (28% in 1996). Measuring and monitoring the health and well-being of these young people remain crucial first steps to creating public policies and programs that meet their needs.

1 - 1

Population Age Distribution
Canada, 1976 and 1996



Source: Statistics Canada. 1998. *Canada Year Book, 1999.*

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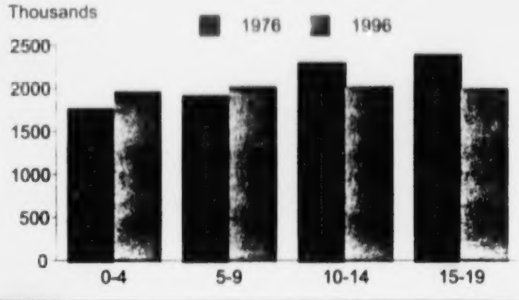
Number of Children and Youth, by Age Group
Canada, 1976 and 1996

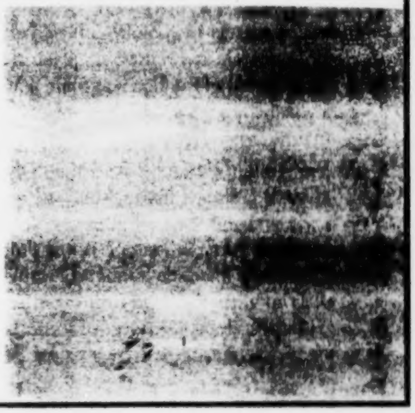


	0-4	5-9	10-14	15-19
1976	1,764.1	1,913.9	2,294.3	2,394.9
1996	1,960.9	2,015.8	2,019.6	2,002.9

In Thousands

Source: Statistics Canada. 1998. *Canada Year Book, 1999.*

Although children birth-9 years of age accounted for a smaller proportion of the population in 1996 than in 1976, their absolute numbers increased by an estimated 298,700. On the other hand, children 10-19 years of age accounted for a smaller proportion of the population in 1996 than in 1976, and their absolute numbers declined by approximately 666,700.

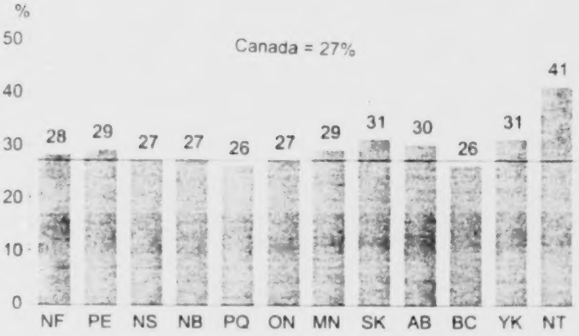


In 1996, a particularly high proportion of the population of the Northwest Territories was under age 20. This may be attributable, in part, to the substantial Aboriginal population in this territory. Aboriginal populations tend to be younger than non-Aboriginal populations in Canada. The proportion of the population under age 20 has implications for education, recreation and employment.

1 - 3

Population Under 20 Years of Age as a Proportion of the Total Population

Canada, Provinces and Territories, 1996

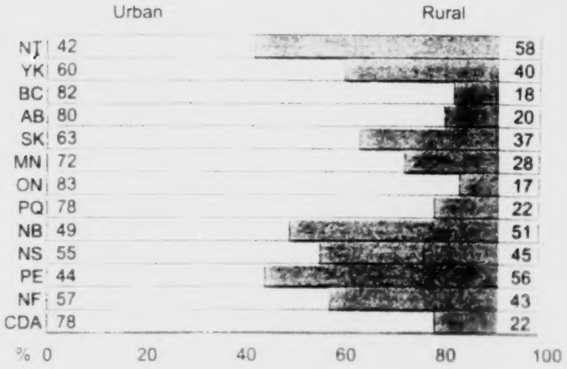


Source: Statistics Canada. 1998. *The Nation Series, Complete Edition* 1996 Census.

1 - 4

Urban, Rural Population Composition

Canada, Provinces and Territories, 1996



Note: Urban areas have minimum population concentrations of 1 000 and a population density of at least 400 per square kilometre, based on the previous census population counts. Rural areas are sparsely populated lands lying outside urban areas.

Source: Statistics Canada. 1997. *A National Overview, Population and Dwelling Counts*.

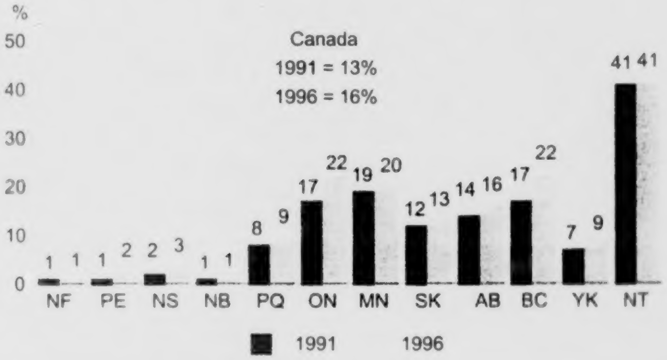
The international trend towards urban living is well-established in Canada. Children in urban areas potentially have access to a greater range of social and health services, especially specialist services which tend to locate in regions with denser populations. Urban children may have access to a wider variety of recreational activities. In cities with good public transportation systems, youth generally enjoy greater mobility than their counterparts in other areas. Although the majority of Canada's population (78%) lives in urban areas, a significant minority lives in rural areas (22%). It is, therefore, important to remember the circumstances and needs of rural children and youth when planning and delivering services.

Canada has two official languages: English and French. However, the proportion of people using a non-official language at home was 13% in 1991 and rose to 16% in 1996. The provinces experiencing the greatest increases were Ontario and British Columbia. This is reflective of immigration patterns overall and highlights the growing diversity of the population living in Canada. The relatively high level of non-official language use in the Northwest Territories is attributable to the substantial proportion of its population which has Aboriginal identity and which speaks an Aboriginal language. The revitalization of Aboriginal languages is associated with enhanced well-being in Aboriginal communities. Meeting the needs of children from diverse linguistic backgrounds is an important challenge for all support systems.

1 - 5

Population Using Non-official Language

Canada, Provinces and Territories, 1991 and 1996



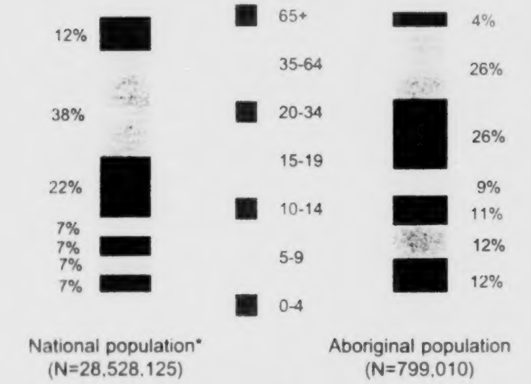
Note: Excludes 1991 and 1996 Census data for one or more incompletely enumerated Indian Reserves or Indian Settlements.

Source: Hanvey, L. et al 1994. *The Health of Canada's Children: A CICH Profile, 2nd Edition.*
CICH using Statistics Canada. 1998. *The Nation Series, Complete Edition.* 1996 Census.

1 - 6

National and Aboriginal Population, by Age Group

Canada, 1996



* National population includes Aboriginal population.
Note: Excludes 1996 Census data for one or more incompletely enumerated Indian Reserves or Indian Settlements.

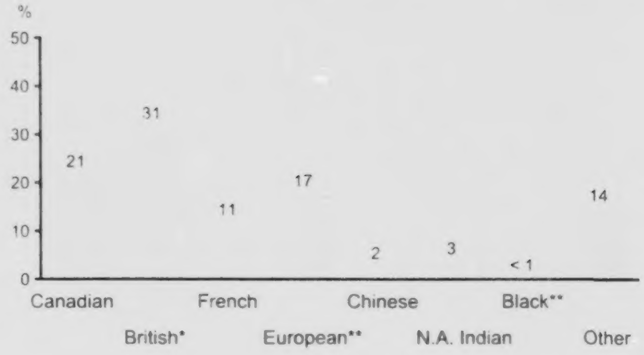
Source: CICH using Statistics Canada. 1998. *The Nation Series, Complete Edition.* 1996 Census.

Aboriginal people account for approximately 2.8% of the national population in Canada. The age distributions of the Aboriginal population and the national population (which includes the Aboriginal population) are very different. Children, birth to 19 years of age, make up 44% of the Aboriginal population but only 28% of the national population. Aboriginal children and youth are more likely to be low income, to live in rural areas and to experience certain types of ill health than their non-Aboriginal peers (Hanvey et al, 1994). The age distribution of Aboriginal Peoples has implications for policy and program development, particularly in the areas of health, education, recreation and youth employment.

Children living in Canada have diverse ethnic origins. This diversity raises issues of multiculturalism and tolerance, but also discrimination. These issues have a significant impact on education, recreation and leisure as well as other domains of daily life.

1 - 7

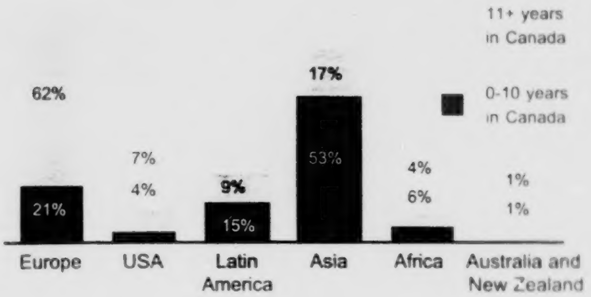
Percent of Children from Birth to 14 Years, by Ethnic Origin
Canada, 1996



*Includes English, Scottish, Welsh and Irish.
**Includes Dutch, German, Italian, Jewish, Polish, Portuguese and Ukranian.
*** Includes African.
Source: Statistics Canada. 1998. *Dimensions Series: Ethnocultural and Social Characteristics of the Canadian Population. 1996 Census.*

1 - 8

Immigrants of Canada, by Birthplace and Duration of Residence
Canada, 1994-1995



Note: Household population aged 18 and over.

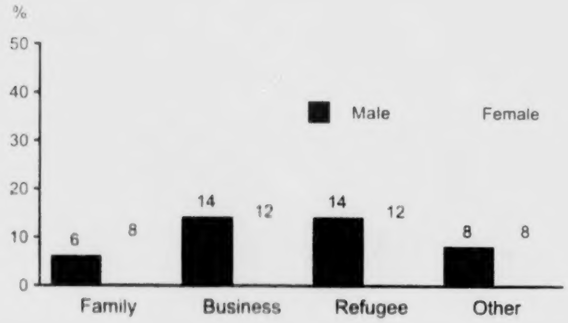
Source: Chen, J. et al. (Statistics Canada). 1996. The Health of Canada's Immigrants in 1994-95. *Health Reports*. Vol 7. No 4. NPHS.

The proportion of immigrants to Canada who are from visible minority backgrounds is growing. Of those immigrants who arrived in Canada 11 or more years ago, approximately one in five was from Asia. Of those immigrants who arrived in Canada within the last ten years, approximately one in two was from Asia. Immigration from Latin America has also been increasing. The majority of children and youth arriving in Canada are healthy, although they may require services such as dentistry (Canadian Paediatric Society, 1999). Those who are visible minorities may be at increased risk of encountering discrimination in Canada, which may negatively affect their well-being.

Children from birth to age 14 represent a significant percentage of immigrants to Canada, most notably among immigrants classified as business or refugee, where they account for approximately one in four. The Canadian Paediatric Society (1999) synthesized information on the health of immigrant children, concluding that the majority of children arriving in Canada are healthy. When health problems are identified, many are also common among Canadian-born children (such as asthma). However, some immigrant children, particularly refugee children, have health problems that reflect difficulties experienced prior to emigration (e.g. malnutrition or severe dental problems). Children arriving from war-torn countries have often experienced physical or psychological trauma.

1 - 9

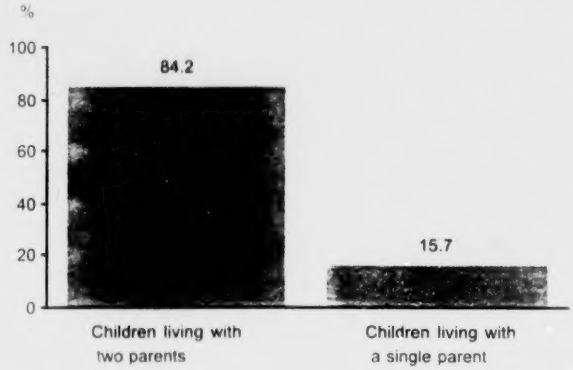
Percentage of Immigrants in Each Category, Who Were Between Birth and 14 Years, by Gender
Canada, 1998



Source: Citizenship and Immigration Canada. 1999. *Facts and Figures 1998: Immigration Overview*

1 - 10

Distribution of Children from Birth to 11 Years, by Family Type
Canada, 1994-1995



Source: Ross, D.P. et al. 1996. *Overview: Children in Canada in the 1990s*. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada*. NLSCY.

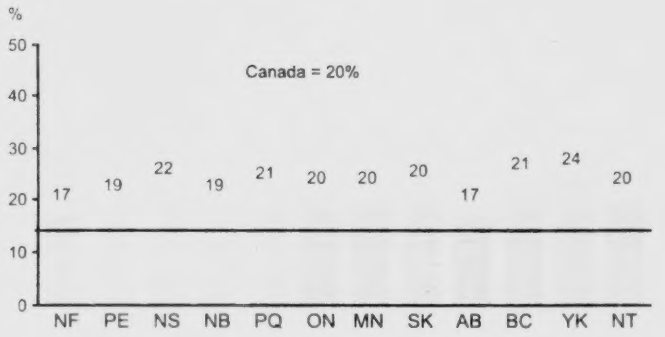
Family Structure

In 1994-95, 84.2% of children in all age groups lived with two parents. Another 15.7% of children lived in a lone-parent family. Less than 1% were not living with a parent. Two-parent families are less vulnerable to financial hardship than lone-parent families, and may have more resources for dealing with the challenges of raising children. The apparent stability of families as represented in this chart is misleading. Some members of two-parent families have spent time in lone-parent families and vice versa. According to Ross et al (1996), 78.7% of children from birth to 11 years of age lived with their biological parents in two-parent families.

The percent of families with a lone-parent ranges from 17% (Newfoundland and Alberta) to 24% (Northwest Territories). The vast majority of lone-parents are mothers. Lone-parents face the same challenges as other parents, but often have fewer human and financial resources to meet those challenges. For example, they may have increased problems harmonizing work and child care schedules. They are more likely to experience isolation and less likely to find time for themselves. Social policies and programs can change these realities for lone-parent families.

1 - 11

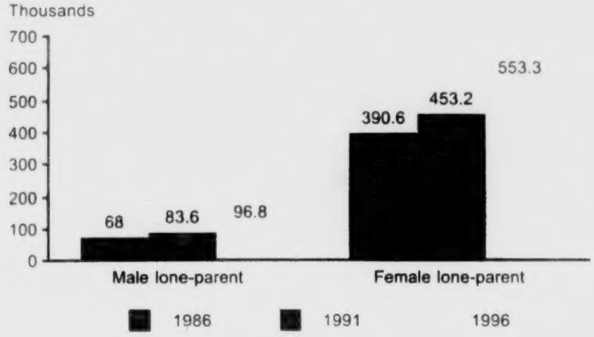
Percent of Families with children under 18 that are Lone-parent Families
Canada, Provinces and Territories, 1996



* Lone-parent refers to a mother or a father, with no spouse or common-law partner present, living in a dwelling with one or more never-married sons and/or daughters.
Source: Statistics Canada. 1998. *The Nation Series, Complete Edition*. 1996 Census.

1 - 12

Number of Lone-parent* Families, by Parent's Gender
Canada, 1986, 1991 and 1996



* Lone-parent refers to a mother or a father, with no spouse or common-law partner present, living in a dwelling with one or more never-married sons and/or daughters.
Source: Statistics Canada. 1992. Families: Number, Type and Structure. 1991 Census of Canada.
Statistics Canada 1998. *The Nation Series Complete Edition*. 1996 Census.

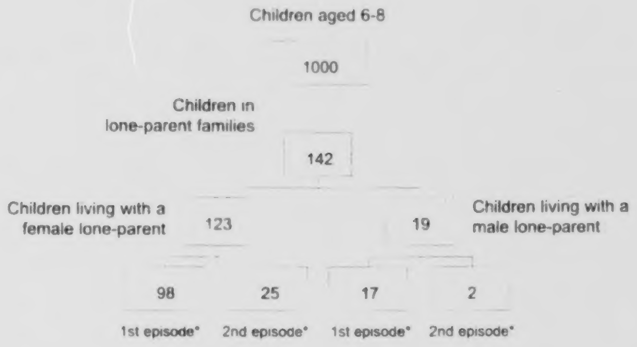
The number of lone-parent families increased from 1986 to 1991 and again from 1991 to 1996. Female lone-parent families consistently outnumber male lone-parent families more than five to one. Female lone-parents experience a higher rate of poverty than male lone-parents.

This diagram shows a cross-section of children 6-8 years of age living in lone-parent families in 1990, illustrating some of the diverse and complex family paths that children experience. In a sample of 1,000 children age 6-8 years, 142 were living in lone-parent families (123 children in lone mother families and 19 in lone father families). For most of the children, this was their first experience in a lone-parent family. However, 27 (of the 1000) children aged 6-8 years were living in a lone-parent family for a second time. Given the young age of the children in this sample, it is reasonable to assume that some will experience further family restructurings before adulthood.

1 - 13

Distribution of 1,000 Children Aged 6-8 Years, by Family Path

Lone-parent Families, Canada, 1990

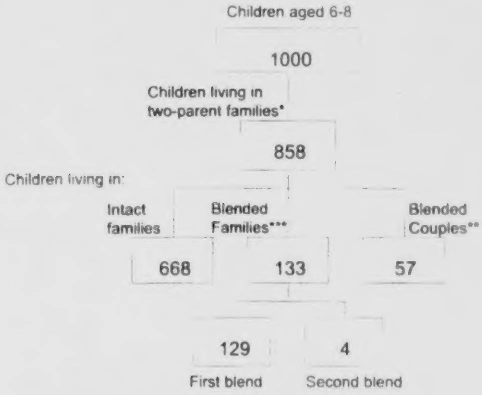

Children aged 6-8
1000
Children in lone-parent families
142
Children living with a female lone-parent
123
19
Children living with a male lone-parent
98
25
17
2
1st episode*
2nd episode*
1st episode*
2nd episode*

* Number of times a child is in a lone-parent family.
Source: Lapierre-Adamcyk, E. 1999. Family Status from the Children's Perspective.
In Statistics Canada: Canadian Families at the Approach of the Year 2000.

1 - 14

Distribution of 1,000 Children Aged 6-8 Years, by Family Path

Two-parent Families, Canada, 1990


Children aged 6-8
1000
Children living in two-parent families*
858
Children living in:
Intact families
Blended Families***
Blended Couples**
668
133
57
129
4
First blend
Second blend

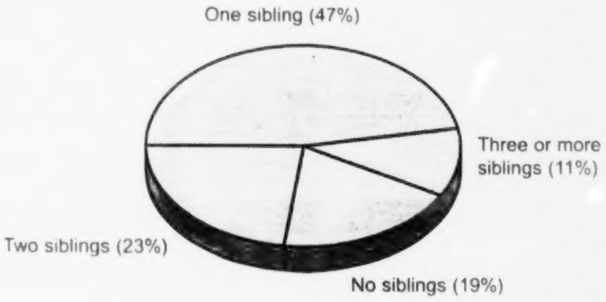
* Includes married and common-law couples.
** A two-parent family in which one parent is not the biological or adoptive parent of the children.
*** A two-parent family in which at least one of the children does not have the same biological or adoptive parents as the others.
Source: Lapierre-Adamcyk, E. 1999. *Family Status from the Children's Perspective.*
In Statistics Canada: *Canadian Families at the Approach of the Year 2000.*

This diagram shows a cross-section of children 6-8 years of age living in two-parent families in 1990. It highlights some of the diverse family paths that children experience and illustrates the complexity of their lives. According to the Census, a child living in a two-parent family may have already experienced multiple family restructurings. In a sample of 1,000 children aged 6-8 years, 858 children were living in two-parent families. Of those 858 children, 133 were living in blended families. Four children were living in a second blend.

Children's lives are shaped by the presence or absence of siblings, the number of siblings, and the relationships among them. Family members must negotiate relationships with each other; they must share resources and space. The findings from the NLSCY show that 47% of children from birth to 11 in Canada have one sibling, 23% have two siblings and 11% have three or more. 19% of children have no siblings. The number of siblings in these families may change as the NLSCY sample ages.

1 - 15

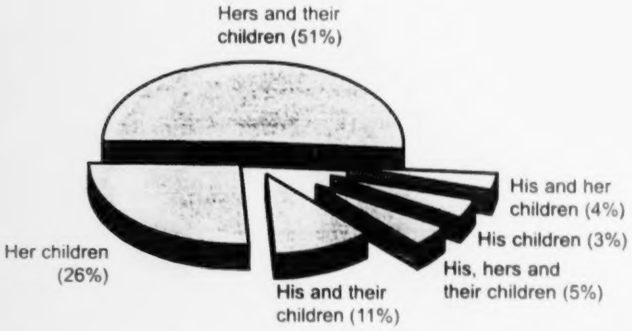
Distribution of Children from Birth to 11 Years, by Number of Siblings in Household
Canada, 1994-1995



Source: Ross, D.P. et al. 1996. Overview: Children in Canada in the 1990s. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada*. NLSCY.

1 - 16

Distribution of Children from Birth to 11 Years, by Step-family
Canada, 1994-1995



Source: Ross, D.P. et al. 1996. Overview: Children in Canada in the 1990s. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada*. NLSCY.

An analysis of the composition of step-parent families highlights the diversity of family environments in Canada and the need to avoid assumptions about step-families. 51% of step-families are composed of a couple, their child or children and the woman's child or children from a previous relationship. 26% of step-families are composed of a mother, her child or children, and a step-father. Only 3% of children from birth to 11 years of age lived in step-families composed of a couple, the father's children and a step-mother. It is clear that the majority of children remain with their mother through changes in family structure and living arrangements, and that a substantial number of men are step-fathers.

Supporting fathers is a relatively new concept in policy and program development; yet it is just as important as supporting mothers. Supportive workplace policies, comparable to those needed by mothers, such as paternity leave or child sick leave, and supportive community programs, such as parent-infant groups, help fathers fulfil their parenting roles.

1-17

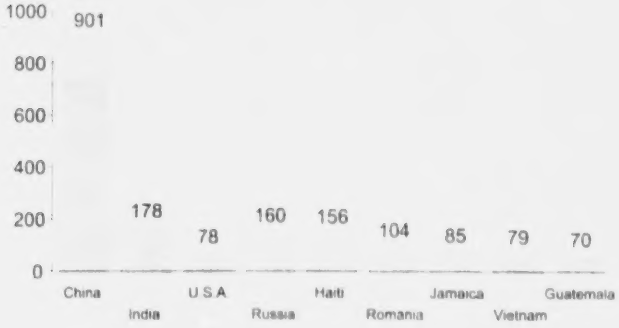
Fathers in Canada
Canada, 1996

- There were 3,171,900 fathers living with at least one child over 18 years of age;
- 110,540 were lone-parent fathers;
- 77,000 were stay-at-home fathers by choice*.

*1997 data
Source: Hoffman, J. 1999. *Of Myths and Men. What's Fact, What's Fiction about Today's Fathers.* Today's Parent.

1-18

Number of Intercountry Adoptions*
Canada, 1998



Note: Not all countries are included in this list.

* Figures are of international adoption cases that received landing status in Canada. Adoptions of both relatives and non-relatives are included.
Source: The Adoptive Parents Association of British Columbia. 1999. *Focus on Adoption.* Vol 7. No. 3.

International adoptions in 1998 were predominantly from China and, to a lesser extent, India, Russia and Haiti. Some children who were adopted from other countries may have received little medical care. The Canadian Paediatric Society (1999) estimates that 50% of internationally-adopted children have medical diagnoses, unidentified upon arrival, of which more than half are infectious. Many of these health problems are not identified through a routine medical history and exam. Conditions identified in some adoptees include fetal alcohol syndrome, hypothyroidism, rickets, lead poisoning, insecticide poisoning, deafness from congenital rubella infection, hepatitis B and C, and HIV. To optimize the healthy development of children adopted internationally, professional awareness of these possible health problems is crucial.

38

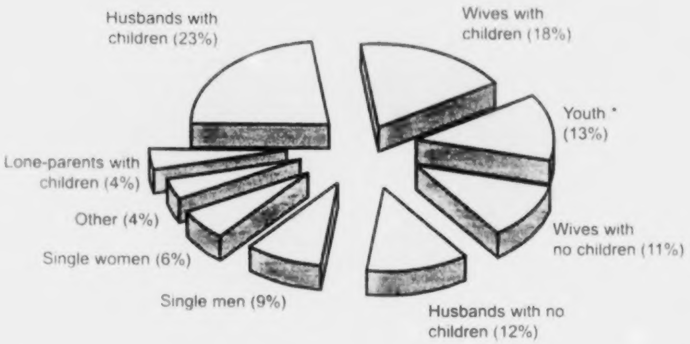
Work and Family

According to The Vanier Institute of the Family (1998), work and family are best understood as complementary, interdependent domains. They calculate that 45% of the labour force is comprised of parents. In other words, almost half of the Canadian labour force must balance the needs of their children against the demands of their jobs. Workplace policies that support families are an important component of any plan to improve the health and well-being of children and youth. Youth (never married children living with at least one parent) account for 13% of the labour force.

1 - 19

Percentage Distribution of Labour Force, 15 Years of Age and Older

Canada, 1995

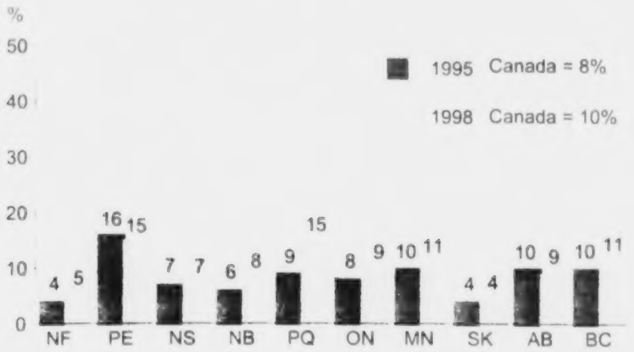


*Never married children aged 15 and over, living with parents.
Source: The Vanier Institute of the Family. 1998. *From the Kitchen Table to the Boardroom Table.*

1 - 20

Proportion of Children from Birth to 12 Years, for Whom There is a Regulated Child Care Space

Canada and Provinces, 1995 and 1998



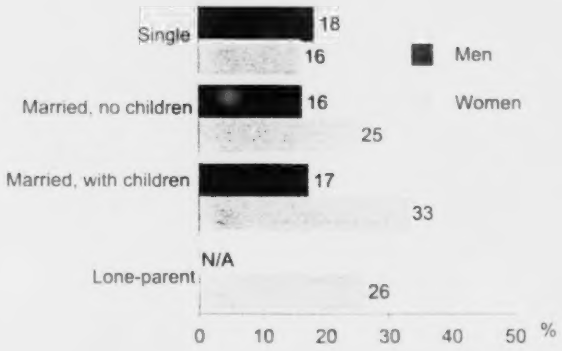
Source: The Childcare Resource and Research Unit. 2000. Centre for Urban and Community Studies. University of Toronto. *Early Childhood Care and Education in Canada: Provinces and Territories, 1998.*

High quality child care is an essential service, enabling parents to work and enriching the lives of young children. All children and parents would benefit from some amount of child care, particularly child care that follows the principles of early childhood education. In 1995, there was a regulated child care space available for 8% of children in Canada. In 1998, there was one for 10% of children. Public policy has a responsibility to show leadership, creating a reality that supports parents in their multiple roles while promoting early childhood education. Businesses, communities and families are important partners in this process. Note: These figures are calculated based on the total number of children and the total number of regulated child care spaces in each province.

Women indicate higher levels of time stress than men, and married women with children report the highest levels of all. Flexibility in the workplace is essential to parents' ability to meet the needs of their children (for example, during times of sickness). The high levels of time stress indicated by mothers suggest that many women do not have this flexibility to balance their time. Governments must develop policies in areas such as family leave, benefits and pension plans that recognize the importance of parents in the healthy development of the child.

1 - 21

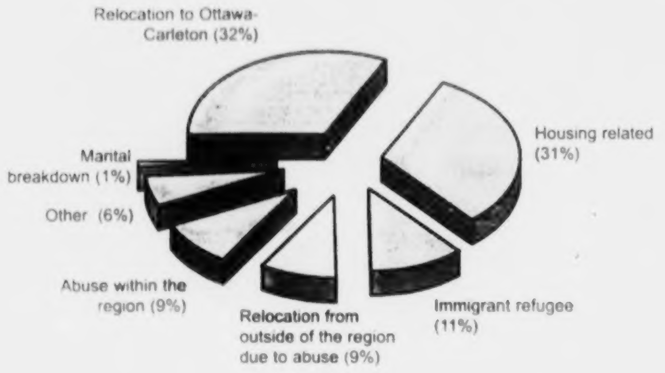
Perceived Time Stress Among Men and Women, Employed Full-time, Aged 25-44
Canada, 1992



N/A = Not available
Source: The Vanier Institute of the Family. 1998. *From the Kitchen Table to the Boardroom Table.*

1 - 22

Reason for Need as a Proportion of Total Shelter Usage
Ottawa-Carleton, 1994-1998



Source: Social Services Department- Regional Municipality of Ottawa-Carleton. 1999. *Homelessness in Ottawa-Carleton.* (unpublished study).

Disruptions in Family Life

The reasons for using emergency shelters reflect pervasive problems in the social infrastructure. Important factors include the high prevalence of poverty, the depth of poverty, the lack of employment opportunity, and the high cost of housing. 31% of those surveyed in Ottawa-Carleton indicated that they used a shelter because they were unable to find affordable housing. Another 32% indicated that they were using shelters because they had recently moved to the area and were not yet established (relocation is often a strategy for finding work). People new to Canada were also found to be vulnerable to homelessness.

Although provincial and national statistics are not available, it is clear that there are growing numbers of homeless families with children in cities across Canada. An estimated 19% of the homeless population in Toronto, or 5,300 homeless people, are children (Golden et al, 1999). Compared to children with permanent homes, homeless children face health risks such as infection, obesity, anemia, injuries, burns, developmental delays and incomplete immunization. Homeless youth, often unaccompanied by an adult, are at elevated risk for injury, sexually transmitted diseases, mental health problems and pregnancy. The health issues of the homeless result from crowded, unstable living conditions, disrupted sleep, exposure to extreme temperatures, poor diet and lack of social support (Regional Municipality of Ottawa-Carleton, 1999).

1 - 23

Homeless Families in Canada

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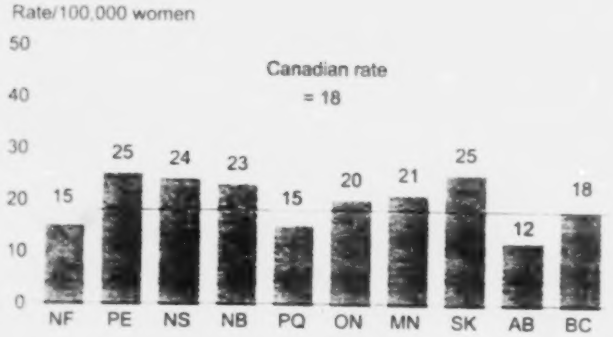
1 - 24

Rate* of Women Admitted to Shelters for Reasons of Abuse**

Canada and Provinces, April 20, 1998



* Rate calculated based on a single day's admissions.

** Transition Home Survey, 1997-1998.

Source: Statistics Canada. 1999. *Juristat: Canada's Shelters for Abused Women.* Vol. 19 No. 6.

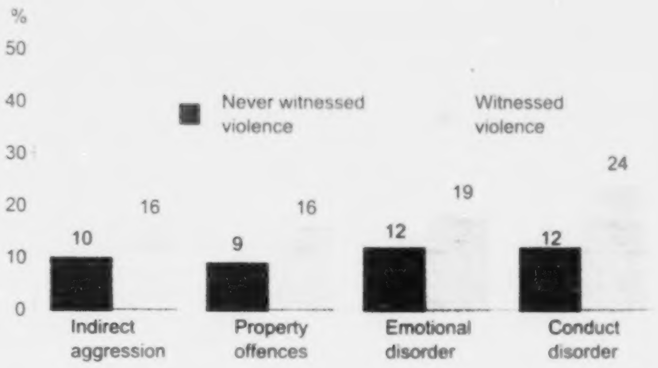
Because the available data are based on admissions rather than individual women, the rate was calculated based on one day's admissions. On average, 18 women per 100,000 in Canada were admitted to shelters for reasons of abuse. Many of these women are mothers. There can be serious, long-lasting negative effects on children who witness the abuse of their mother. Research suggests that children are aware of most violent incidents and that many even witness severe violence. Children living with mothers who are being abused are also at an increased risk of being abused or becoming abusers themselves (Health Canada, 1996b).

According to the NLSCY, an estimated 260,000 children aged 4–11 (8%) had witnessed family violence. When compared with their peers who had not witnessed family violence, these children exhibited higher rates of indirect aggression (16% compared to 10%), property offences (16% compared to 9%), emotional disorder (19% compared to 12%) and conduct disorder (24% compared to 12%). Child witnesses of family violence are more likely to report reliving the trauma, fear, anxiety, tension, hyper-vigilance, irritability, anger, and outbursts of aggression. They are at elevated risk of depression, withdrawal, low self-esteem, destructive and/or aggressive behaviour and conflict with the law. In short, they have emotional and behavioural problems similar to those of abused children (Health Canada, 1996b).

1 - 25

Percent of Children Aged 4–11 Years, Who Have Witnessed Violence, by Behavioural Problems

Canada, 1996-97



Source: Statistics Canada. 1999. *Family Violence in Canada: A Statistical Profile.*

1 - 26

Cumulative Number of Missing Children Cases, by Probable Cause

Canada, 1994, 1996 and 1998

	1994	1996	1998
Stranger	68	45	42
Accident	24	34	28
Wandered off	672	822	623
Parental	394	409	426
Runaway	40,140	43,717	48,388
Unknown	8,901	9,181	10,254
Other	1,774	1,914	2,326
Total	51,973	56,122	62,087

Source: Royal Canadian Mounted Police. 1999. *Canada's Missing Children 1998 Annual Report: Missing Children's Registry.*

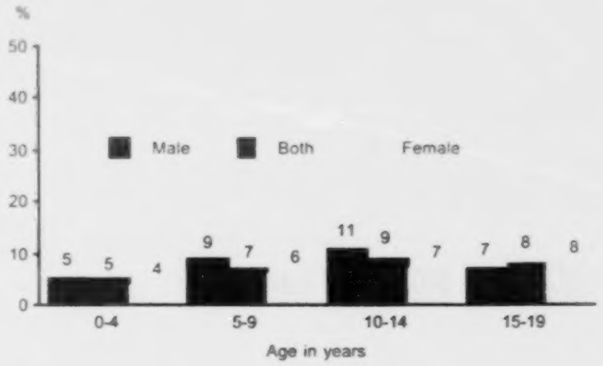
Every year in Canada, 50,000 to 60,000 children are classified as missing. These children are not all newly missing; some of them may have been missing for years. The vast majority of missing children are adolescent runaways. The decision to run away is often precipitated by abuse or the child's perception of dysfunction in the family. A small number of children are abducted by a parent, even fewer by a stranger. Supporting families in the task of nurturing children and understanding adolescents is an important strategy for reducing the number of missing children. Children on the street face significant threats to their health and well-being. The health of children abducted by a parent is largely unknown.

Disability

The most recent national survey on children and youth with disabilities was the Health and Activity Limitation Survey in 1991. Population-based surveys, such as the NLSCY and the NPHS, are not designed to provide a comprehensive count and description of children and youth with disabilities. More recent detailed information on children and youth with disabilities is urgently needed if appropriate policies and programs are to be developed.

1-27

Disability Rates of Children and Youth*
From Birth to 19 Years of Age, by Age Group and Gender
Canada, 1991



* Data from the 1991 Health and Activity Limitation Survey.
Source: Hanvey, L. et al. 1994. *The Health of Canada's Children: A CICH Profile, 2nd Edition.*

1-28

Number and Percentage of Children With a Limitation of Activity, by Age and Gender
Canada, 1996-1997

Age in years	Male N	Male %	Female N	Female %
0 to 9	169,537	10	80,393[m]	5[m]
10 to 19	151,858	7	162,788	8
Total	321,394	9	243,181	7

Note: Coefficients determined using Statistics Canada bootstrap program for NPHS.
Note: Excludes don't know, refused, not stated, and not applicable
m= high sampling variability (c.v.= 21). Interpret with caution.
Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997* Public Use Microdata Files

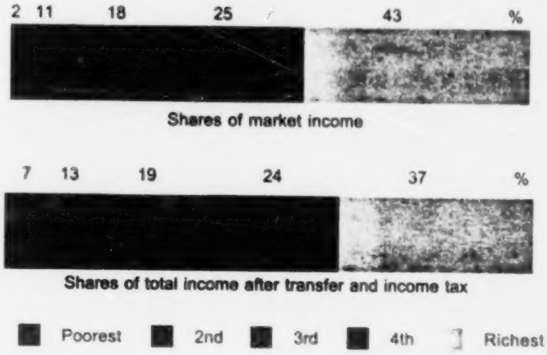
Although not a disability survey, the 1996-97 National Population Health Survey (NPHS) did ask respondents about the disability status of themselves and of members of their household. The rates of disability estimated using the NPHS are generally consistent with the rates found in the 1991 Health and Activity Limitation Survey (HALS). It is important to keep in mind that the age distribution reflects the point at which a diagnosis is made, not necessarily the age at which the disability occurred. Many disabilities are first diagnosed when children enter the school system. Learning disabilities are often not diagnosed until the highschool years.

Income Inequity

Income inequity is a central determinant of health and well-being. International research indicates that income inequity translates into poorer population health outcomes while income equity translates into better population health outcomes. In Canada, incomes are polarized. In 1996, out of every dollar of family income (after transfers and income tax), 37 cents went to the richest 20% while 7 cents went to the poorest 20%. In 1991, the richest 20% received 40 cents out of every dollar of family income and the poorest 20% received 6 cents (Hanvey et al, 1994).

1 - 29

Income Distribution by Quintile, and by Families with Children Under 18 Years of Age
Canada, 1996



Source: Special runs conducted for CICH by the Canadian Council on Social Development.

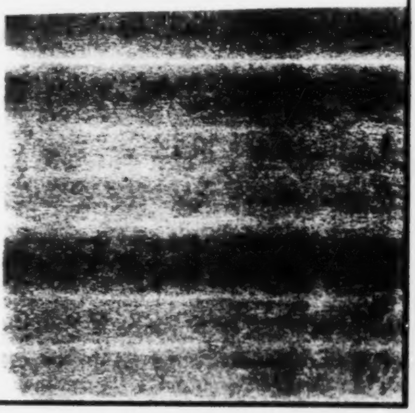
1 - 30

Human Development Index,
World Rank (1=best), 1997*

Rank	Country
1	**Canada**
2	Norway
3	United States
4	Japan
5	Belguim
6	Sweden
7	Australia
8	Netherlands
9	Iceland
10	United Kingdom

* 174 countries total
Source: *United Nations Development Programme.* 1999. *Human Development Report 1999.*

The Human Development Index (HDI) employed by the United Nations is a broad measure of life expectancy, education levels and standard of living. Since 1991, when the United Nations began ranking countries, Canada has achieved the highest rank in all but two years, 1991 and 1993, when Canada ranked second.



The Human Poverty Index-2 (HPI-2) measures poverty in industrialized nations. Unlike Canada's first place position based on the Human Development Index, Canada is ranked 9th in the world when the HPI-2 is used. As children in Canada are at elevated risk for poverty and as poverty is a significant determinant of health, Canada's low rank on the Human Poverty Index raises concerns about child health and well-being.

1-31

Human Poverty Index-2,
World Rank (1=best), 1997*

Rank	Country
1	Sweden
2	Netherlands
3	Germany
4	Norway
5	Italy
6	Finland
7	France
8	Japan
9	**Canada**
10	Denmark

* 17 industrialized countries
Source: United Nations Development Programme. 1999. *Human Development Report 1999.*

1-32

Gender Empowerment Measure
World Rank (1 = best), 1997*

Rank	Country
1	Norway
2	Sweden
3	Denmark
4	**Canada**
5	Germany
6	Finland
7	Iceland
8	United States
9	Australia
10	Netherlands

* 102 countries total.
Source: United Nations Development Programme. 1999. *Human Development Report 1999.*

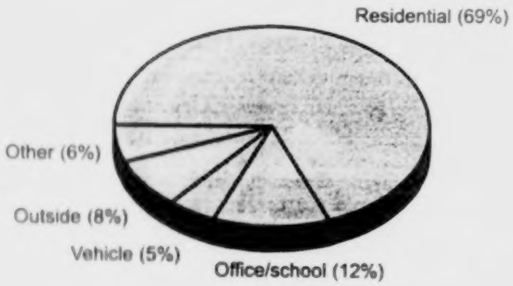
Many measures indicate superior rates in the standard of health of Canadians. However, when gender is factored into the equation, Canada does not fare as well. According to the Gender Empowerment Measure (GEM), Canada was ranked 4th in the world in 1997 (Canada was 7th in 1995). The GEM measures women's earned income share as a percentage of men's, and women's participation in politics and decision-making positions. Gender empowerment has a direct effect on children's health and well-being. Children's well-being is dependent upon women's well-being. When women earn less than their male counterparts, hold fewer positions of power, and devote longer hours to housework and child care, their well-being, and the well-being of their children, can be undermined.

Children's Environmental Health

Children and adults alike spend the majority of their time indoors (81%), although children spend slightly more time outside than adults (Pollution Probe, 1998). Thus, indoor air quality is an important influence on health and well-being. Indoor air quality is determined by such factors as housing quality (dampness causing mold, too much or too little air exchange), chemical content of construction materials, particulates from wood stoves, environmental tobacco smoke, chemicals from cooking and cleaning and environmental contaminants brought in from outside. Research into indoor air quality and its potential health effects, and increased public awareness about indoor air quality issues, is essential, particularly in light of the amount of time spent indoors.

1 - 33

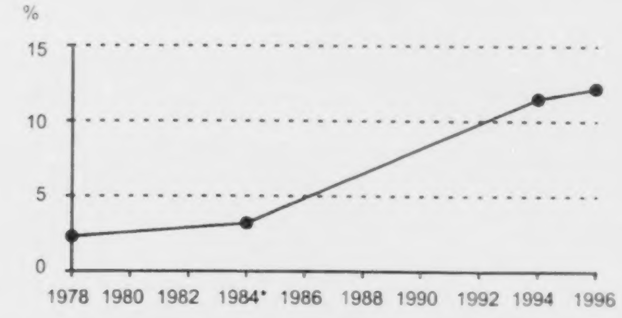
Time Spent Indoors and Outdoors, by Major Location, All Ages
Canada, 1992-1994



Source: Bell, R. 1998. *The Air Children Breathe: The Effects on their Health* (Speaker's material).

1 - 34

Reported Asthma Prevalence, Birth to 19 Years
Canada, 1978-1996



	1978	1980	1982	1984*	1986	1988	1990	1992	1994	1996
%	2	N/A	N/A	3	N/A	N/A	N/A	N/A	12	12

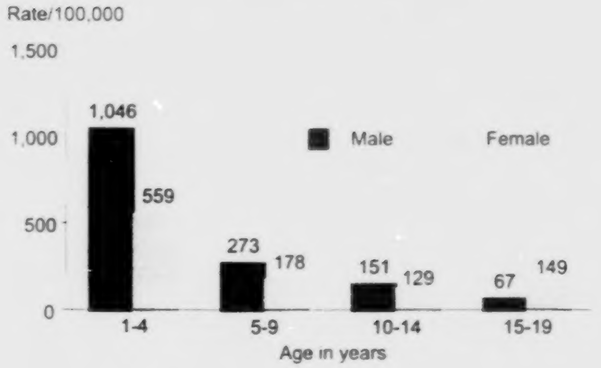
* 1984 survey includes 0-14 years of age only.
Note: Percentages are weighted estimates.
Source: Health Canada. 1999. *Measuring Up: A Health Surveillance Update on Canadian Children and Youth.*

The increase in reported asthma rates between 1978 and 1996, confirmed in Canada and other countries, is too great to be attributed to increased awareness and improved diagnosis alone. Researchers are investigating, among other hypotheses, the relationship between asthma and air quality. Indoor air pollutants implicated include environmental tobacco smoke, dust mites, mold, natural gas cooking, and animal dander. Outdoor contaminants implicated include ground level ozone, sulphur dioxide, particulate matter and nitrogen oxides. These factors may also contribute to the frequency and severity of attacks. Contaminants are only one factor among many others, such as genetic predisposition, lung structure, lung development processes, and exposure to infectious agents and allergens (Pollution Probe, 1998). Exposure to immune system suppressants may also be a factor.

In 1996-97, as in previous years, younger children were more likely to be hospitalized for asthma than older children and youth. For younger children, there may be an overlap between asthma and infections associated with wheezing (such as pneumonia); however, this overlap is insufficient to explain the difference between age groups. Males accounted for more hospitalizations for asthma than females until late adolescence. Hospitalization rates for asthma are related to both the prevalence of asthma and the severity of asthma episodes.

1 - 35

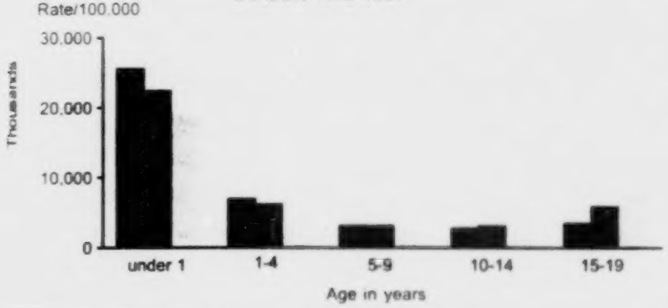
Hospitalization Rate for Asthma, by Age Group
Canada, 1996-1997



Note: Acute care in-patient hospitalizations only.
Source: CICH using the Canadian Institute of Health Information data and Statistics Canada population data, 1996-1997.

1 - 36

Hospitalization Rates for all Causes, by Age Group and Gender
Canada, 1996-1997



Male	25,503	6,827	3,101	2,706	3,405
Both	22,237	6,014	2,826	2,662	5,423
Female	18,803	5,160	2,537	2,616	7,557

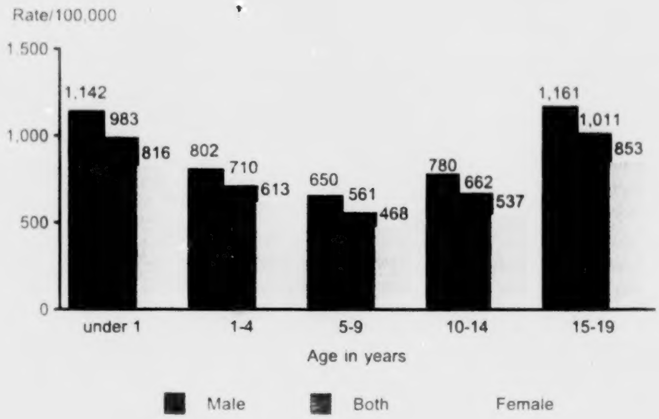
Note: Acute care in-patient hospitalizations only, including re-admissions; excluding newborns.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

Hospitalization and Death

As in previous years, infants were, by far, the most likely of all age groups to be hospitalized. In 1996-97, infants under one year were admitted to hospital at a rate of approximately 22,000 per 100,000. This rate was three to eight times higher than the rate for any other age group.

In 1996-97, hospitalization rates for injury were highest for 15-19 year olds, particularly males. Unintentional injuries, especially those due to traffic incidents, were an important single cause of injury hospitalization for males aged 15-19 years. Suicide attempts were the greatest single cause of injury hospitalization for females age 15-19 years. Injury hospitalization rates are almost as high for infants under one year of age, with falls being the greatest single cause (with the exception of problems resulting from medical procedures that are classified as "injuries").

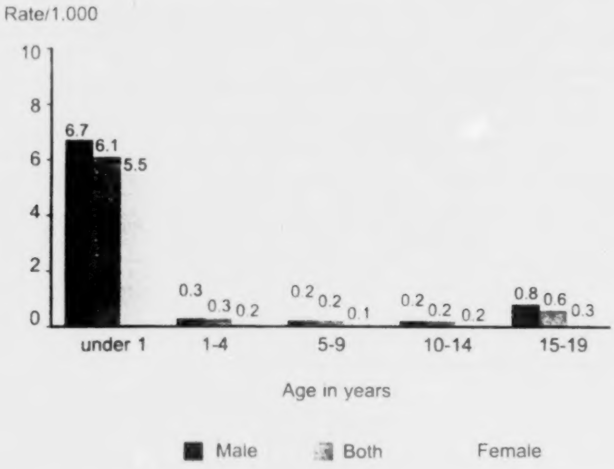
1 - 37



Injury Hospitalization, by Age Group
Canada, 1996-1997

Source: CICH using the Canadian Institute for Health Information data and Statistics Canada population data, 1996-1997.

1 - 38



Age-Gender, Specific Death Rates
Canada, 1995

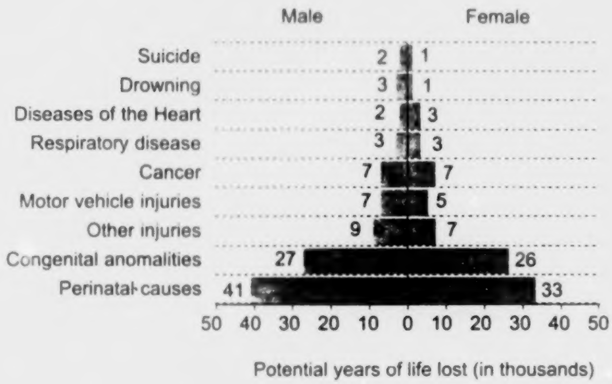
Source: Statistics Canada. 1997. *Births and Deaths, 1995.*

Each age group faces unique challenges to health and well-being. These challenges vary for girls and boys. In 1995, as in previous years, infants under one year of age had the highest death rate among children and youth. As in previous years, males had higher death rates than females.

"Potential years of life lost" is a term used to describe the difference between an individual's actual life span and the life expectancy for that individual's age cohort. In 1999, perinatal conditions and congenital anomalies accounted for the greatest number of potential years of life lost. For children from birth to age 14 years, perinatal conditions resulted in 74,000 lost potential years of life. Congenital conditions resulted in 53,000 lost potential years. Unintentional injuries (motor vehicle and other) and cancer were also significant contributors to potential years of life lost.

1 - 59

Calculated Number of Potential Years of Life Lost, Birth to 14 Years, by Causes of Death
Canada, 1999



Source: National Cancer Institute of Canada. 1999. *Canadian Cancer Statistics, 1999.*

Chapter 2

Pregnancy, Birth & Infancy

> *"Canadian health care professionals have worked hard to ensure the availability of optimal perinatal care for all mothers and their babies. This care is currently under serious threat due to lack of personnel resources."*
>
> Graham Chance,
> Retired Neonatologist,
> Ontario.

More and more women in Canada are delaying childbirth until they are in their thirties and forties. This is made possible by accessible and effective birth control methods.

The decision to delay childbearing reflects changing educational and employment strategies of women and men. Certainly, the shift in maternal age distribution has far-reaching repercussions for families and communities. For example, this shift increases the likelihood that many adults will be caring for their children and their own parents during the same years.

At the opposite end of the age spectrum, there are teenage mothers. Births to teenage women account for a very small percentage of all births; however, they represent a substantial challenge to health and social services. Women who have babies as teenagers face special challenges for many years to come in the absence of specialized programs.

What is the trend in multiple births?

The rate of multiple births increased dramatically between 1990 and 1996. Although most of these babies are healthy, there are health concerns associated with multiple births. Multiples, particularly higher order multiples (triplets, quadruplets, etc.), are much more likely than singletons to be born preterm and at a low birth weight. Low birth weight is a risk factor for chronic health problems and disabilities.

The increase in the rate of multiple births is associated with the use of new reproductive technologies (such as fertility drugs and in vitro fertilization) in response to infertility. These technologies are more commonly used with increased maternal age. There is currently little discussion and no consensus on the implications of new reproductive technologies for the health and well-being of the children who result.

What factors interfere with infant health?

The majority of infants in Canada are born healthy and continue to thrive during infancy. For those babies not born healthy, low birth weight and congenital anomalies are often involved.

Low birth weight is a persistent challenge and the rates have not changed appreciably in the last ten years. In 1996, the rate of low birth weight was 5.8%, representing a slight increase. Low birth weight contributes substantially to perinatal morbidity and mortality and is also associated with a higher rate of childhood health problems, including chronic illnesses and disabilities.

Women with lower levels of education, women with lower levels of income, and women who smoke are at increased risk of having a baby with a low birth weight. Congenital anomalies remain a leading cause of health problems in infancy. The most common congenital anomalies are not life-threatening (such as clubfoot). However, severe congenital anomalies remain an important cause of potential years of life lost among children.

Are women in Canada breastfeeding their infants?

In addition to providing optimum nutrition to infants, breastfeeding provides protection against infectious diseases, contributes to healthy brain and nervous system development, promotes attachment between mother and infant and may offer some protection against Sudden Infant Death Syndrome.

The public health message that "breastfeeding is best" is being heard by women in Canada. Roughly three in four new mothers initiate breastfeeding but far fewer breastfeed for the recommended four to six months. Many women in Canada breastfeed for less than three months.

To increase the duration of breastfeeding, there is a need to build support for breastfeeding as a normal, healthy activity. These messages need to be recognized by health professionals and by families, communities and workplaces.

What are the trends in infant hospitalization and infant death?

In 1996, as in previous years, infants under one year had the highest hospitalization rate among children and youth. The good news is that very few infants in Canada die. In 1996, Canada's infant mortality was less than 6/1000 live births.

The majority of infant deaths are due to perinatal conditions or congenital anomalies. Although these conditions are not all preventable, improving the preconceptional health of women and men and improving maternal prenatal health are important strategies in reducing their incidence.

Each year, a number of babies die from Sudden Infant Death Syndrome (SIDS). Although the underlying causes responsible for SIDS are not known, strategies for lowering the risk have been identified: placing infants on their back to sleep, avoiding overheating, maintaining a tobacco-smoke free environment, and breastfeeding.

Canada's infant mortality rate is lower than the U.S. rate but higher than the rates seen in several other countries.

Pregnancy and Birth

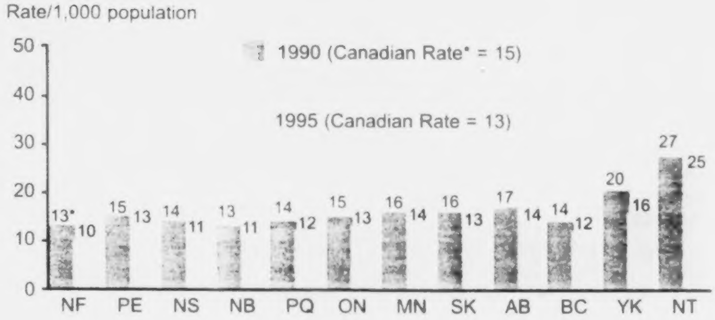
Fertility

The crude birth rate, defined as live births per 1,000 population, for Canada, has decreased considerably from 15 to 13 per 1,000 population between 1990 and 1995. The rate has decreased across all the provinces and territories. In 1995, as in 1990, the Northwest Territories had the highest crude birth rate at 25 per 1,000. One contributing factor to the higher rate in the Northwest Territories is that a greater proportion of its population is Aboriginal. As the Aboriginal population is younger than the non-Aboriginal population, it experiences greater population growth momentum and higher fertility rates.

2 - 1

Crude Birth Rate

Canada, Provinces and Territories, 1990 and 1995

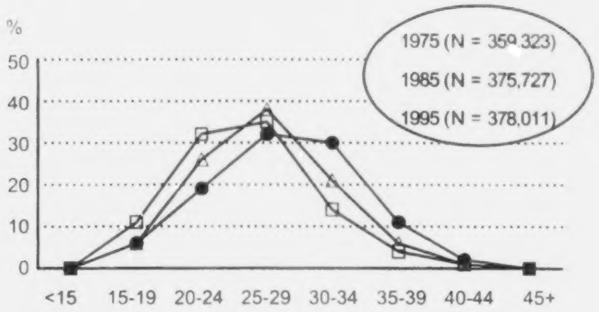


*Figures adjusted due to undercounts.
Source: Statistics Canada. 1997. *Birth and Deaths, 1995.*

2 - 2

Proportion of Live Births, by Age of Mother

Canada, 1975, 1985 and 1995



	<15	15-19	20-24	25-29	30-34	35-39	40-44	45+
1975 □	*	11	32	35	14	4	1	*
1985 △	*	6	26	38	21	6	1	*
1995 ●	*	6	19	32	30	11	2	*

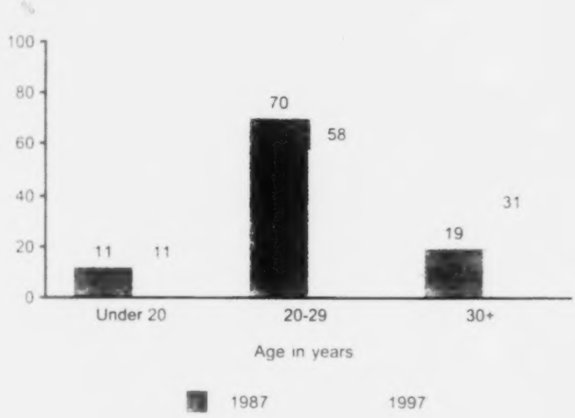
* Numbers too small to report.
Source: Statistics Canada. 1999. *Canada Year Book 1999, on CD-Rom.*

Between 1975 and 1995, the proportion of live births to mothers in their thirties increased. 41% of live births were to mothers 30 to 39 years of age in 1995 as opposed to 27% in 1985 and 18% in 1975. With access to effective birth control methods, women are in a better position to plan their pregnancies. Many women are choosing to wait to have children until they have met personal goals in areas such as education, employment and leisure.

More women are having their first child after the age of thirty (31% in 1997 compared with 19% in 1987). For most perinatal complications, there is no significant age effect. However, the risk of having a Caesarean birth, a preterm birth or an infant born with chromosomal anomalies is somewhat elevated for older primiparous women (Macnab, 1997). The rate of chromosomal anomalies would be somewhat higher without the use of modern screening technologies during pregnancy.

2 - 3

First Live Births, by Mother's Age Group*
Canada, 1987 and 1997

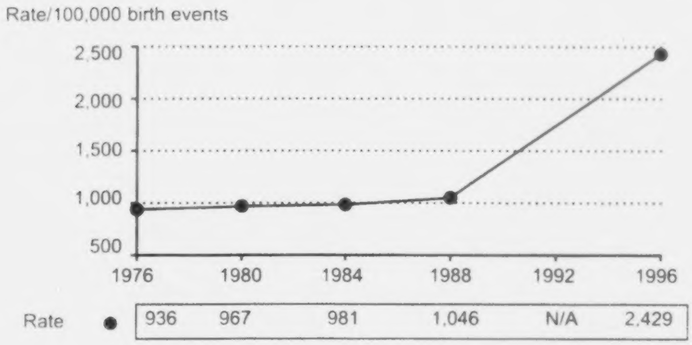


* Mother's age was not available for births in Newfoundland prior to 1991.

Note: Excludes births and stillbirths to non-residents of Canada.
Source: Statistics Canada. 1999. *The Daily.* Wednesday June 16, 1999.

2 - 4

Multiple Birth Rate per 100,000 Birth Events
Canada*, 1976-1996



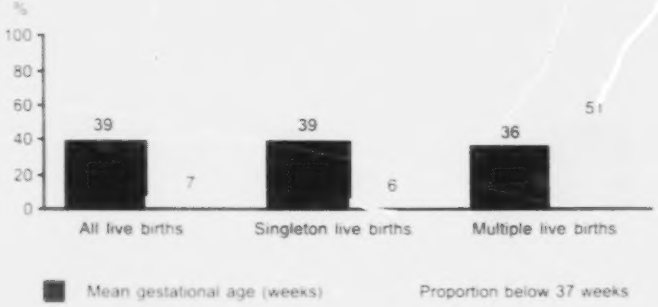
* Newfoundland is excluded in 1978, 1984, and 1990.
Source: Millar, W. et al. (Statistics Canada). 1992. Multiple Births: Trends and Patterns in Canada, 1974-1990. *Health Reports.* Vol.4 No. 3. Cited in Hanvey, L. et al 1994. *The Health of Canada's Children: A CICH Profile, 2nd Edition.*
Statistics Canada. 1999. *Births and Deaths, 1996.* Shelf Tables.

The very dramatic increase in multiple births is associated with the use of new reproductive technologies, such as fertility drugs and in vitro fertilization. These technologies are more commonly used with increased maternal age. The trend is towards more multiple births and more higher order multiple births. Multiples are more likely to be born preterm. Preterm multiples have a higher rate of perinatal complications than preterm singletons. The risk of health problems increases with the number of multiples.

The mean gestational age of singleton births in Canada in 1993-95 (Ontario and British Columbia excluded) was 39 weeks, with approximately 6% of live births being preterm (less than 37 weeks gestational age). The mean gestational age for multiple births was 36 weeks with approximately 51% of live births being preterm.

Mean Gestational Age and Proportion of Live Births Born Below 37 Weeks, Type of Birth: Singleton vs. Multiple

Canada*, 1993-1995



* Ontario and British Columbia excluded

Source: Joseph, K.S. 1998. *Preterm Birth in Canada*. In Preterm Birth Prevention Conference: Report and Background Papers.

Parents of multiples cope with physical, emotional, economic and social stressors that can, in the absence of adequate social supports, have adverse effects on family life.

The Impact of Multiple Births on Families is Enormous

- Parents expecting multiples need support as they learn about promoting health and managing risks during pregnancy. After birth, there may be health problems or disabilities among the infants. Parents may be grieving the loss of infants who didn't survive.
- The care of multiples often requires one parent to leave work for an extended period of time. Further, multiples bring with them increased costs.
- Caring for multiples is challenging work made more challenging by the lack of resources, accessible information and home care services.
- Although in most cases families cope remarkably well, domestic dysfunction and abuse are real issues that must be addressed.

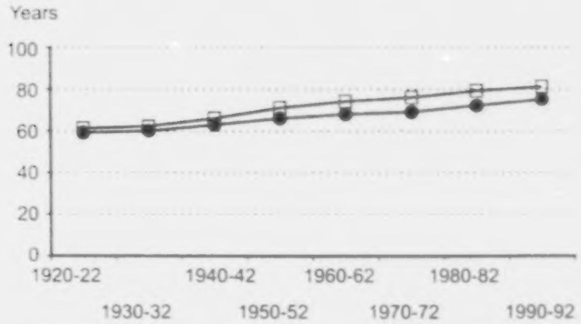
Source: Personal communication with Bonnie Schultz, Parents of Multiple Births Association.

Life Expectancy at Birth

Life expectancy at birth has climbed steadily since 1920-22. Babies born in 1992 are likely to live longer than babies born in previous years. In 1990-92, females had a life expectancy at birth of 81 years and males of 75 years. Although many of our current life expectancy gains are the result of improved outcomes for people with chronic diseases and other health problems, better health as infants and young children also contributes. Good nutrition, immunization and safe environments are all part of a healthy start in life. The impact of life-long exposure to environmental contaminants on life expectancy is yet to be determined.

2 - 7

Life Expectancy at Birth, by Gender
Canada, 1920-22 to 1990-92

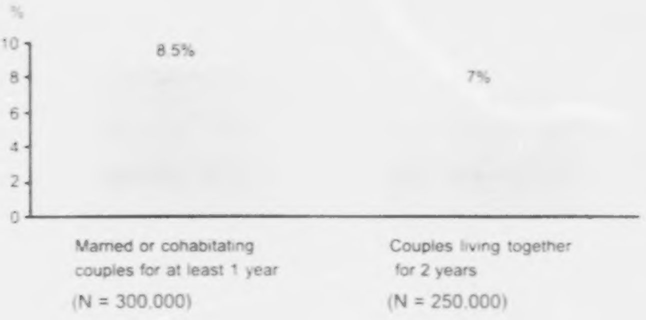


Female □	61	62	66	71	74	76	79	81
Male ●	59	60	63	66	68	69	72	75

Source: Statistics Canada. 1997. *Births and Deaths, 1995.*

2 - 8

Prevalence of Infertility Among Couples Who Had Not Used Contraception, by Length of Time Living Together
Canada, 1992



Source: Royal Commission on New Reproductive Technologies. 1993. *Proceed with Care. Final Report of the Royal Commission on New Reproductive Technologies.* Vol 1 and 2.

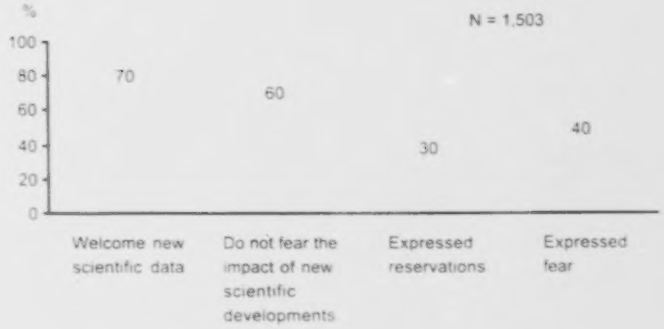
Infertility and the New Reproductive Technologies

According to the Final Report of the Royal Commission on New Reproductive Technologies (1993:182), "infertility is not the inability to conceive at all (sterility), but rather the reduced ability to conceive over time". Thus, the Royal Commission examined the prevalence of infertility using two different time spans. They identified 300,000 infertile couples, or a prevalence of 8.5%, using the one-year criterion and 250,000 couples, or a prevalence of 7%, using the two-year criterion. They indicated that the causes of infertility include sexually transmitted diseases, delayed childbearing, exposure to environmental contaminants at home and in the workplace, personal factors (such as smoking, nutrition and violence) and medical conditions (1993: 175-176).

The majority of people living in Canada welcome new scientific data and do not fear the impact of scientific developments in the area of new reproductive technologies. The Royal Commission on New Reproductive Technologies (1993: 41), however, indicated that there may be as yet unexplored ramifications of these technologies on the health, emotional and psychological well-being and legal status of the resulting children. Further, the impact of the reproductive technologies on family structure, function and dynamics has not been adequately investigated.

2 - 9

Percentage of Respondents Who Do or Do Not Fear New Scientific Developments in New Reproductive Technologies
Canada, 1992

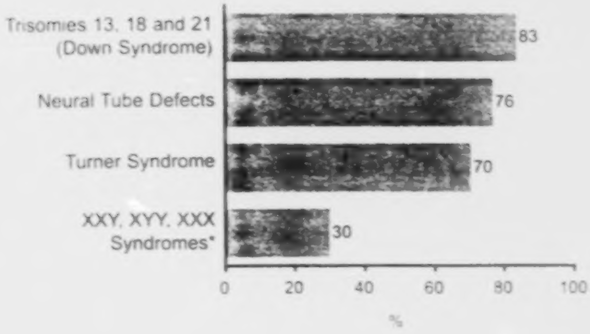


Note: Respondents could answer yes to more than one question.

Source: Royal Commission on New Reproductive Technologies. 1993. *Proceed with Care. Final Report of the Royal Commission on New Reproductive Technologies.* Vol 1 and 2.

2 - 10

Percentage of Women Who Terminated Pregnancy After Diagnosis of Fetal Disorder, by Type of Disorder
Canada, 1990



* Includes balanced translocations and mosaics.
Source: Adapted from Hamerton, J.L. et al. 1993. Prenatal Diagnosis in Canada 1990: A Review of Genetics Centres. In Royal Commission on New Reproductive Technologies. 1993. *Proceed with Care. Final Report of the Royal Commission on New Reproductive Technologies.* Vol 1 and 2.

The decision to terminate a pregnancy, especially a desired pregnancy, can be very difficult. Research indicates that parents consider the severity of the disorder when making a decision. The termination rate is 83% for disorders such as trisomies 13, 18 and 21, all of which the Royal Commission classified as severe, and 30% for other disorders such as XXY, XYY and XXX syndromes, classified by the Royal Commission as less severe.

Prenatal Circumstances

The Canadian Institute of Child Health supports the view that the "womb is the first environment". Consequently, information on alcohol consumption, smoking and the use of pharmaceuticals during pregnancy is presented in Chapter 10: Children's Environmental Health. The key points about maternal consumption of these substances are summarized in the text chart.

2.11

Prenatal Exposures to Alcohol, Tobacco Smoke and Pharmaceuticals

- According to the NLSCY, 17.5% of women consumed alcohol during their pregnancy.
- 2.5% of these women reported "binge" drinking (more than five drinks on one occasion).
- According to the NLSCY, 23.7% of women smoked during their last pregnancy.
- The majority of these women (84.2%) smoked throughout their pregnancy.
- A significant minority of women (about one in four) reported the use of prescription and over the counter drugs during pregnancy.

Source: Connor, S. and McIntyre, L. The Effects of Smoking and Drinking During Pregnancy (forthcoming). McIntyre, L. (1996), Starting Out. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada. NLSCY.*

2.12

Physical Abuse During Pregnancy

- The Society of Obstetricians and Gynecologists of Canada (1996) estimates that the incidence of physical abuse during pregnancy is between 4 and 17%. Abuse often begins during pregnancy.
- Women who experience abuse during pregnancy are more often white, single, and poor; however, abuse occurs in all groups.
- Women who are abused are more likely to delay prenatal care and to attend irregularly.
- Pregnant women who experience abuse are at elevated risk of having a preterm or low birth weight infant.

Source: Best Start Resource Centre, 1998. *Prevention of Low Birth Weight In Canada. Literature Review and Strategies.*

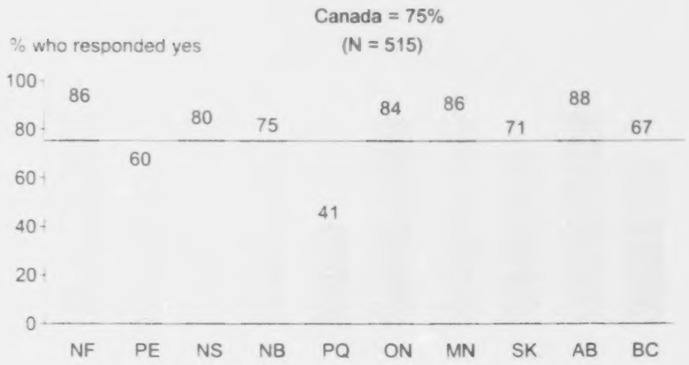
Physical abuse during pregnancy can negatively affect the health and well-being of both mother and infant.

Maternity Care

Combined mother-infant care, the provision of care by one nurse to both the mother and her infant, results in more continuity of care. It is an important factor in responding to the care and information needs of postpartum mothers, and enhances the attachment process for the dyad or triad. In 1993, 75% of responding hospitals indicated that they provided combined mother-infant care. In 1993, responding hospitals in Québec were significantly less likely to indicate that they provided combined mother-infant care.

2 - 13

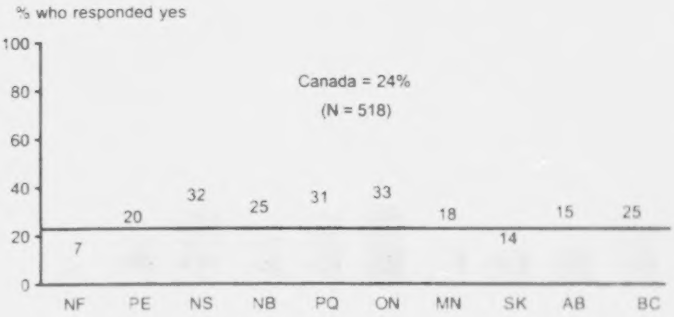
Percentage of Respondents Who Practice Combined Mother-infant Care
Canada and Provinces, 1993



Source: Levitt, C. et al. 1995. *Survey of Routine Maternity Care and Practices in Canadian Hospitals.*

2 - 14

Percentage of Hospitals Who Have A Policy For Assessing Babies Who May be Going Home to Violent Situations
Canada and Provinces, 1993



Source: Levitt, C. et al. 1995. *Survey of Routine Maternity Care and Practices in Canadian Hospitals.*

Following the birth of their babies, women who have been abused, especially women who have been abused during pregnancy, may be returning to living conditions that pose multiple risks to themselves and their babies. The majority of responding hospitals, however, did not have a policy for assessing the circumstances of babies who may be going home to violent situations. There need to be better and well-utilized systems for assessing the possible risks for babies who may be going home to potentially violent situations.

Family Leave Policies

When a new baby or child is introduced into a family, either through birth or adoption, there is a period of readjustment and relationship building. Maternity, parental and adoption leave are important economic and social supports to parents, facilitating this process of family readjustment. As of 1995, maternity leave was available in all provinces (although it was shorter than the six months the World Health Organization recommends for exclusive breastfeeding). Parental leave was also common, found in all but Alberta and the Northwest Territories. On the other hand, as of 1995, adoption leave was available in only a few provinces. Only Newfoundland and Saskatchewan provided the same number of weeks for adoption leave as they did for maternity leave.

2 - 15

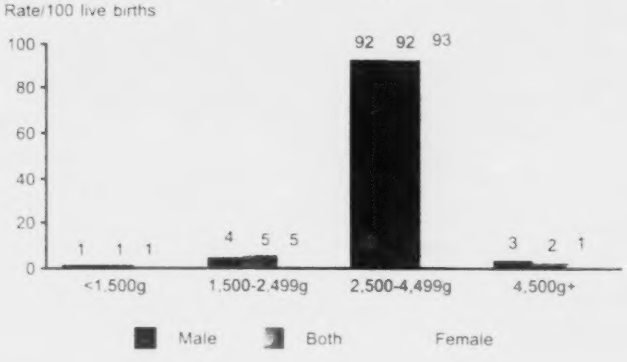
Family Leave Policy
Provinces and Territories, 1995

	Maternity leave (weeks)	Parental leave (weeks)	Adoption leave (weeks)
NF	17	12	17
PE	17	17	None
NS	17	17	None
NB*	17	12	None
PQ**	18	34	5 days
ON	17	18	None
MN	17	17	None
SK	18	12	18
AB	18	None	8
BC***	18	12	None
YK	17	12	None
NT	17	None	None

* In New Brunswick, leave was only available to one parent.
** Québec allowed 5 days/year to each parent for emergency child care situations.
*** British Columbia allowed 5 days/year to each employee to attend to the health, care, or educational needs of immediate family members.
Source: University of Toronto. The Childcare Resource and Research Unit. 1997. *Child Care in Canada: Provinces and Territories 1995.*

2 - 16

Rate of Live Births, by Birth Weight and Gender
Canada*, 1995



* Excluding Ontario.
Source: Statistics Canada. 1997. *Births and Deaths, 1995.*

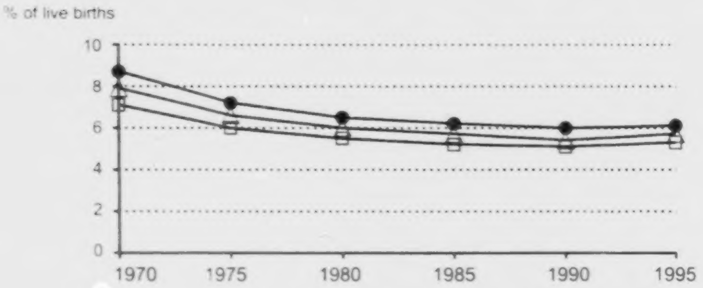
Birth weight

The majority of babies weigh between 2,500 and 4,499 grams at birth. A healthy birth weight indicates probable healthy development in utero, and subsequently, in the first years of life. Low birth weight substantially contributes to perinatal illness and death. It is associated with a higher rate of long-term health problems, including disabilities such as cerebral palsy and learning difficulties (Moutquin, 1996). Note: The rate of low birth weight is defined as the number of live births under 2,500 grams per 100 live births. Infants under 1,500 grams are considered to be of a very low birth weight. Low birth weight infants are born either preterm (less than 37 completed weeks of gestation) or small for gestational age (less than 10th percentile) or both.

The rate of low birth weight decreased between 1970 and 1990. Between 1990 and 1995, there was a slight increase in the rate. In 1995, the rate of low birth weight was 5.7%. Prevention of low birth weight is a public health challenge because there is no clearly defined medical at-risk group, there are multiple risk factors (e.g. smoking, drinking and drug use, physical or emotional abuse, and other stress), and the underlying causal mechanisms responsible for preterm birth and restricted uterine growth are not well understood (with the exception of multiple gestation). For these reasons, at present, a community-wide, sustained approach that focuses on health promotion holds the greatest promise (Best Start Resource Centre, 1998).

2 - 17

Low Birth Weight Distribution 2,500 Grams or Less
Canada, 1970-1995*

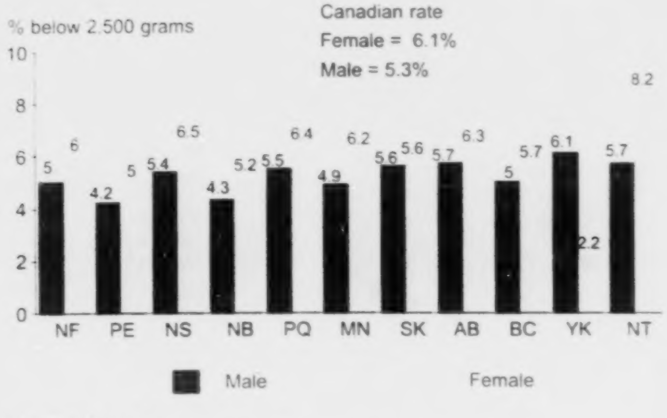


	1970	1975	1980	1985	1990	1995
Female ●	8.7	7.2	6.5	6.2	6.0	6.1
Both Δ	7.9	6.6	6.0	5.7	5.4	5.7
Male ☐	7.1	6.0	5.5	5.2	5.1	5.3

* 1970 to 1994 excludes Newfoundland.
**Data source for 1970 is Hanvey, L. et al 1994. *The Health of Canada's Children: A CICH Profile, 2nd Edition.*
Source: Statistics Canada. 1997. *Births and Deaths, 1995.*

2 - 18

Rate of Low Birth Weight, by Gender
Canada*, Provinces and Territories, 1995

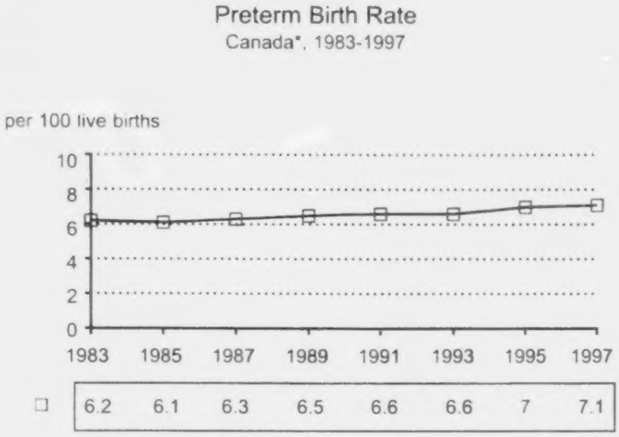


*Excluding Ontario.
Source: Statistics Canada. 1997. *Births and Deaths, 1995.*

In 1995, as in previous years, the rate of low birth weight was slightly higher for females (6.1%) than males (5.3%). There was only limited variability across the country.

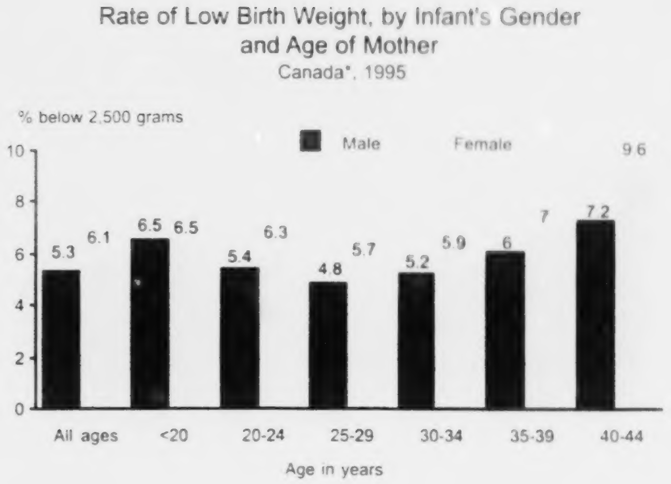
The rate of preterm birth has risen somewhat since the mid-1980s. Early preterm birth is especially associated with perinatal illness, neonatal death and long-term complications, including disability. Some factors thought related to the recent increase include higher numbers of multiple births from reproductive technologies, medically indicated preterm birth for pregnancy complications, and the use of ultrasound for estimating gestational age. More research into the biologic and social phenomena related to preterm birth is needed.

2 - 19



* Excluding Ontario and Newfoundland.
Source: Statistics Canada. *Canadian Vital Statistics System, 1981-1997.*

2 - 20



*Excluding Ontario.
Source: Statistics Canada. 1997. *Births and Deaths, 1995.*

Maternal age is a risk factor for low birth weight. This is of growing concern as an increasing number of women are having children in their thirties and forties. The data demonstrate that the rate goes up slightly but significantly for women aged 35 years and older. In 1995, as in previous years, female infants had a slightly higher rate of low birth weight than males. Research indicates that female low birth weight infants are more likely to survive than male low birth weight babies; female low birth weight babies also tend to be healthier than their male counterparts (Best Start Resource Centre, 1998).

Smoking, level of education, and household income are significant risk factors for small for gestational age (SGA) births. Smoking is widely accepted as the most important preventable risk factor associated with SGA. The 1994-95 NLSCY found that women who smoked had an SGA rate of 12%-13% compared to 4% for non-smokers. The SGA rate for women with less than a high school diploma was 12%, compared with 6% for women who graduated from high school. Women with a low income had an SGA rate of 9% while women with a high income had a rate of 4%. Some infants from low income families may continue to be at a disadvantage after birth because their parents have fewer resources with which to care for them.

2-21

Percentage of Children Less Than 2 Who Were SGA* by Mother's Characteristics

Canada Excluding the Territories, 1994-1995

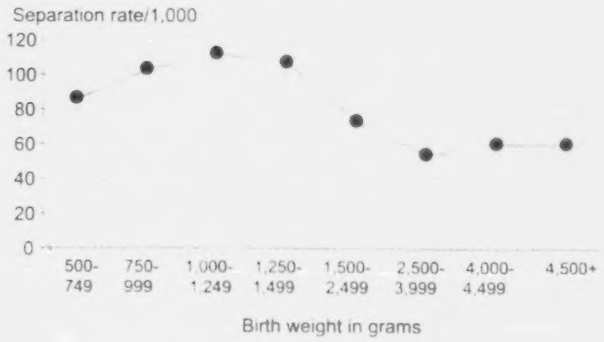
Mother's characteristics	%
Less than high school	12
High school graduation / some post secondary	6
Postsecondary graduation	5
11+ cigarettes per day	13
1-10 cigarettes per day	12
Did not smoke	4
Low household income	9
Middle household income	6
High household income	4

*Small for Gestational Age at Birth.
Note: Total N = 42,100 (Excludes missing).
Source: Statistics Canada. Millar, J. et al. 1998. Maternal Education and Risk Factors for Small-for-gestational-age Births. *Health Reports*. Vol. 10, No. 2.

2-22

Hospitalization Rates per 1,000 Children, Aged 5 Years, by Birth Weight

Alberta, 1987-93



Rate ●	86	103	112	107	73	54	60	60

Note: Includes readmissions.
Source: Svenson, L., and Schopflocher, D. 1997. *Hospitalizations by Birth Weight: Results From the Alberta Children's Health Study*. Graph of the Week, No. 44.

Hospitalization rates for low birth weight infants are much higher than those for infants who were not low birth weight. This difference persists as these children age. The rate of hospitalization for children five years of age is inversely related to their birth weight. This relationship between birth weight and hospitalization highlights the long-term health consequences of low birth weight, including increased rates of disability and chronic illness.

Canada's low birth weight rate has been consistently higher than Norway's rate and consistently lower than the rate in the United Kingdom and the United States. Norway's low rate indicates that Canada has lessons to learn in addressing the further reduction of low birth weight. Research is needed to identify effective ways to reduce the incidence of low birth weight.

2-23

Low Birth Weight

Canada and International, 1984, 1986, 1988 and 1990

	1984	1986	1988	1990
Canada	5.7	5.6	5.6	5.4
Norway	N/A	N/A	4.5	4.6
United Kingdom	6.8	7.0	6.5	6.4
U.S.A.	6.7	6.8	6.9	N/A

Source: Phipps, S. 1999. CPRN Study No. F5. *International Comparison of Outcomes for Children.*

2-20

Low Birth Weight Prevention

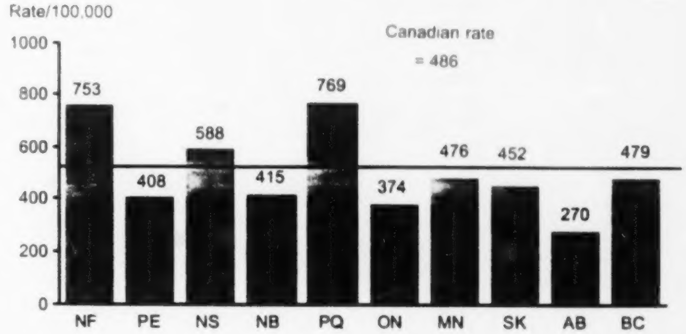
Healthy birth outcomes are an important public health priority and the prevention of low birth weight is a key factor in promoting healthy birth outcomes. There are some prevention programs in place across Canada, including community-wide approaches and programs targeting high-risk women. However, to move forward in this important effort, there is a need for information about the impact of these programs on the rate of low birth weight. Process and outcome evaluation data are required to assess the effectiveness of different strategies and to guide future policy and program development.

Congenital Anomalies

There was considerable variation between the provinces in the rate of congenital anomalies or birth defects. In 1996, the highest rates were found in **Québec** (769 per 100,000) and **Newfoundland** (753 per 100,000) and the lowest rates were found in **Alberta** (270 per 100,000). The average for Canada was 486 per 100,000. Differences in rates may reflect, in part, differences in the reporting and health care services, particularly in terms of access to prenatal screening.

2 - 25

Rate of Congenital Anomalies
Canada and Provinces, 1996

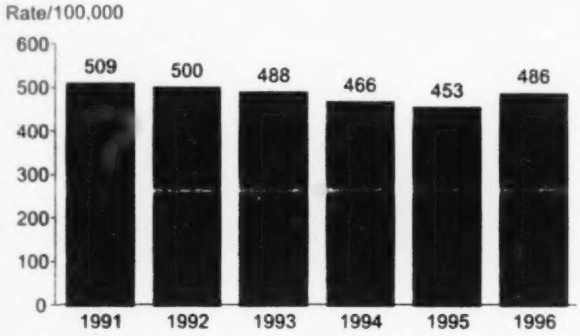


Note: There are variations in how provinces report congenital anomalies.

Source: Special runs conducted for CICH by Health Canada, Bureau of Reproductive and Child Health. Canadian Congenital Anomalies Surveillance System (CCASS).

2 - 26

Rate of Congenital Anomalies
Canada, 1991-1996



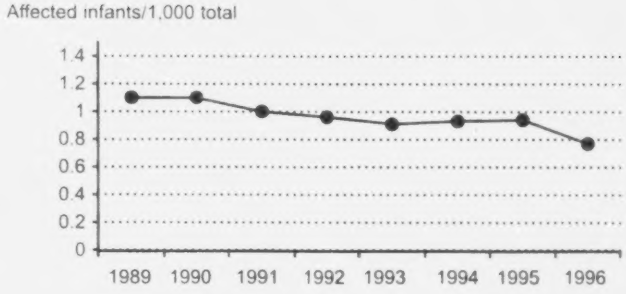
Source: Special runs conducted for CICH by Health Canada, Bureau of Reproductive and Child Health. Canadian Congenital Anomalies Surveillance System (CCASS).

The congenital anomalies rate decreased between 1991 and 1995, from 509 per 100,000 to 453. Between 1995 and 1996, it increased to 486. The congenital anomalies rate is affected by a variety of factors including improved preconceptional and prenatal health care and improved prenatal screening, as well as access to termination for serious defects.

According to the Laboratory Centre for Disease Control (1999), neural tube defects are an important category of congenital anomalies because they cause both long-term disability and death. Neural tube defects (anencephaly, spina bifida and encephalocele) result from the failure of the neural tube to close completely during early embryonic development. The reduction in the birth prevalence of neural tube defects is attributable, in part, to early detection and subsequent termination of affected pregnancies and possibly, in part, to better diets and the use of vitamin supplements, such as folic acid (LCDC, 1999).

2 - 27

Neural Tube Defect Rates
Canada*, 1989-1996



Rate ●	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.8

* 1989-1995 excluding Nova Scotia; 1996 excluding Quebec.
Source: Health Canada. Laboratory Centre for Disease Control. 1999. *Measuring Up: A Health Surveillance Update on Canadian Children and Youth.*

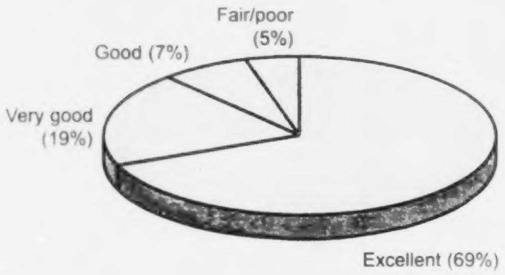
Infancy

General Health

The majority of parents (69%) rated the health of their infant as "excellent". Another 26% rated the health of their infant as "very good" or "good". 5% of parents rated the health of their infant as "fair" or "poor".

2 - 28

Parent Assessment* of the Health of Their Infants**
Canada, 1994-1995



* Based on person most knowledgeable.
** From birth to age 2 years.
Source: Ross, D.P. et al. 1996. Overview: *Children in Canada in the 1990s.* In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada.* NLSCY.

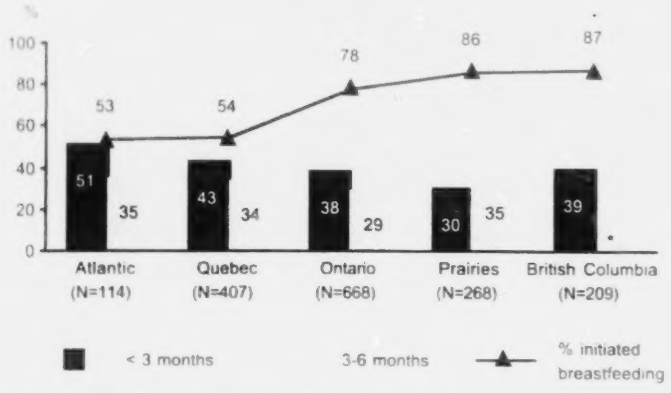
Not all disabilities present at birth are identified during the first year of life. Sometimes, the disabilities are "invisible" during infancy (for example, learning disabilities). Sometimes, the disabilities are "visible", but the signs and symptoms may be difficult to recognize (for example, Fetal Alcohol Syndrome). Sometimes, parents and doctors may initially assume that the child will "catch up". Yet early diagnosis and early intervention are important to the healthy development of children with disabilities and to the well-being of their parents. There is a need for national and provincial data on the age at first diagnosis and for research examining the implications of delayed diagnosis for children and their families.

2 - 29

Early Diagnosis of Disability

2 - 30

Prevalence* of Breastfeeding** and Duration, by Region
Canada, 1994-1995



• Sample size was too small to yield a precise estimate.
*The prevalence of breastfeeding is based on mothers who had children below the age of 5 years in the household, and who were currently breastfeeding or had breastfed their youngest child.
**Duration of breastfeeding is based on those mothers who had breastfed their youngest child. Women who are currently breastfeeding are not included.
Source: Health Canada. 1999. *Breastfeeding in Canada.*

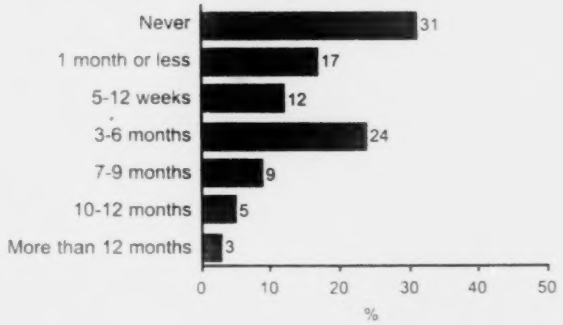
Breastfeeding

Breastfeeding offers many benefits: it provides infants with optimum nutrition; it protects against infectious diseases; and, it promotes maternal-infant attachment. Breastfeeding may also provide some protection against SIDS (Canadian Foundation for the Study of Infant Deaths et al, 1999). According to the 1994-95 NPHS Supplement, significant regional variation exists in the initiation and duration of breastfeeding. The national average in Canada was 73% for initiation (Health Canada, 1999a). The World Health Organization developed a ten-step model (1994) for becoming a "baby-friendly" hospital that, among other features, supports exclusive breastfeeding. At this time, Canada has one hospital that meets all the criteria and has been designated "baby-friendly".

Experts agree that breastfeeding for six months or more is optimal for the health of the baby; this position is supported by the World Health Organization and the Breastfeeding Committee for Canada. The NLSCY found that 31% of women had never breastfed their infant and another 29% had breastfed for 12 weeks or less. To increase the percentage of women breastfeeding for the optimal length of time, active, community-wide efforts to promote and support breastfeeding are needed. Strategies include encouraging frequent breastfeeds during the first postnatal weeks, providing community-based breastfeeding support programs, and providing flexible work schedules to facilitate part-time nursing and the use of expressed milk (Canadian Paediatric Society, Dieticians of Canada and Health Canada 1998:3).

2-31

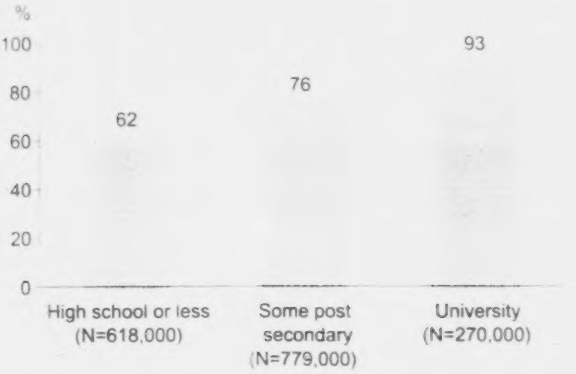
Breastfeeding* Duration**
Canada, 1996



*This does not include those who were breastfeeding at the time of the interview.
**Of children from birth to age 1 year at the time of the NLSCY interview.
Source: McIntyre, L. 1996. Starting Out. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada*. NLSCY.

2-32

Prevalence* of Breastfeeding, by Education
Canada, 1994-1995



* The N value refers to the population of women with children less than age 5 in each category.
Note: The prevalence of breastfeeding is based on mothers who had children below the age of 5 years in the household, and who were currently breastfeeding or had breastfed their youngest child.

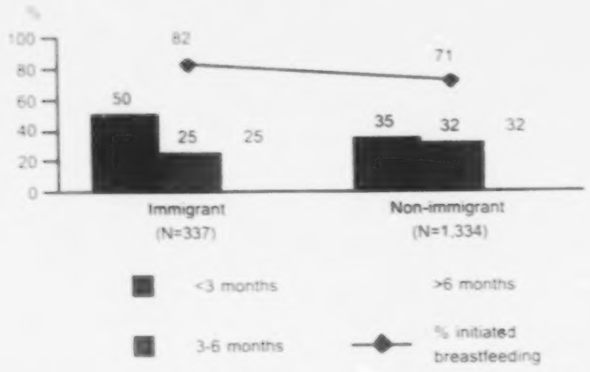
Source: Health Canada. 1999. *Breastfeeding in Canada*.

Breastfeeding rates are positively related to maternal education. The National Population Health Survey Supplement (1994-95) found that women who breastfed more than six months were more likely to be older, live in two-parent families, be university-educated, and come from higher income families (Health Canada, 1999a). The significant short and long term health benefits of breastfeeding are experienced unequally in society, with infants in families with less income often at a disadvantage.

According to the NPHS Supplement (1994-95), mothers born outside Canada were more likely than Canadian-born mothers (82% as compared with 71%) to initiate breastfeeding. However, Canadian-born mothers were more likely to report breastfeeding for three months or more. Immigrant mothers were more likely than Canadian-born mothers to identify insufficient milk as the reason for weaning.

2

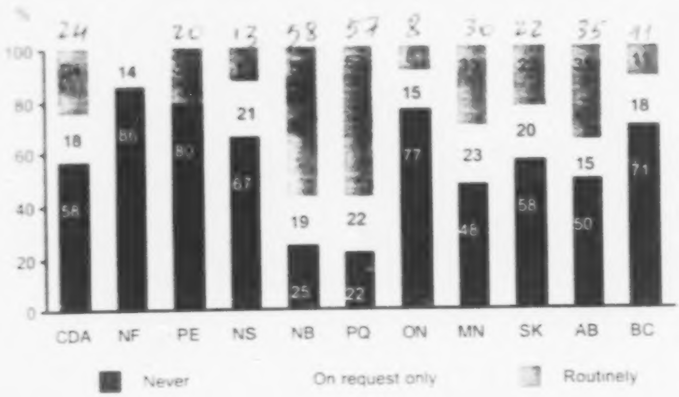
Prevalence* and Duration** of Breastfeeding, by Immigrant Status
Canada, 1994-1995



Note: The N value refers to the population of women with children less than age 5 years.
* The prevalence of breastfeeding is based on mothers who had children below the age of 5 in the household, and who were currently breastfeeding or had breastfed their youngest child.
** Duration of breastfeeding is based on those mothers who had breastfed their youngest child. Women who are currently breastfeeding are not included.
Source: Health Canada. 1999. *Breastfeeding in Canada.*

2

Percentage of Units Who Give Breastfeeding Mothers Sample Packs Containing Formula
Canada and Provinces, 1993



Source: Levitt, C. et al. 1995. *Survey of Routine Maternity Care and Practices in Canadian Hospitals.*

Breastfeeding is recognized as the optimal method for feeding infants. When hospitals provide samples of formula to postpartum mothers, they undermine this message and promote formula feeding as a preferred method of infant feeding. In 1993, the majority of responding hospitals across Canada indicated that they never provided formula samples or did so only upon request. The exceptions were hospitals in New Brunswick and Québec. (Positive changes in maternity care and practices have been instituted in New Brunswick, Québec and other provinces since this survey).

Immunization

Immunization rates for infants and young children are very high in Canada. Vigilance is required to maintain these high rates to prevent outbreaks or epidemics. The 1995-96 birth cohort (who was 2 years of age in 1997-98) had slightly lower rates of immunization coverage for diphtheria, pertussis and tetanus than the previous cohort at the age of two years. The rate of polio immunization, on the other hand, increased. Immunization prevents serious childhood illness and contributes to lower infant and child mortality rates.

2-35

Percent of Children at Age 2 Immunized for Diptheria, Pertussis,Tetanus and Polio, by Birth Cohort

Canada, 1992-1993 to 1995-96

Vaccine	Birth cohort 1992-93 %	1993-94 %	1994-95 %	1995-96 %
Diphtheria	84.4	87.1	86.8	84.2
Pertussis	82.9	84.8	85.2	83
Tetanus	83.9	85.9	85.1	83.8
Polio	87.4	89.9	85.8	90.1

Note: 1. Coverage at 2 years of age is based on all vaccine doses received by children aged 24-35 months.
2. Diphtheria, Pertussis, Tetanus are based on 4 doses. Polio is based on greater than or equal to 3 doses.
Source: Health Canada. 1999. Canadian National Report on Immunization, 1998. *Paediatrics & Child Health*, Vol 4, Supplement C.

2-36

Percent of Children at Age 2 Immunized for Measles, Mumps, Rubella and HiB, by Birth Cohort

Canada, 1992-1993 to 1995-96

Vaccine	Birth cohort 1992-93 %	1993-94 %	1994-95 %	1995-96 %
Measles*	96.2	97	96	96.2
Mumps	96	96.8	95.9	95.6
Rubella	96	96.7	95.9	95.5
HiB**	54.6	69.3	73.7	74.9

*Coverage based on measles vaccine dose(s) received at any time.
**HiB = Haemophilus Influenzae Type b.
Note: 1. Coverage at 2 years of age is based on all vaccine doses received by children aged 24-35 months.
2. Diphtheria, Pertussis, Tetanus are based on 4 doses. Polio is based on greater than or equal to 3 doses.
Source: Health Canada. 1999. Canadian National Report on Immunization, 1998. *Paediatrics & Child Health*, Vol 4, Supplement C.

Although the immunization rate was high for measles, mumps and rubella, the immunization rate for HiB continued to fall short. The rate of HiB immunization at age two years, however, was significantly higher for the 1994-95 birth cohort than the 1993-94 birth cohort. The rate for the 1995-96 cohort (who was 2 years of age in 1997-98) was slightly higher again. This increase reflects greater public and professional awareness of the vaccine.

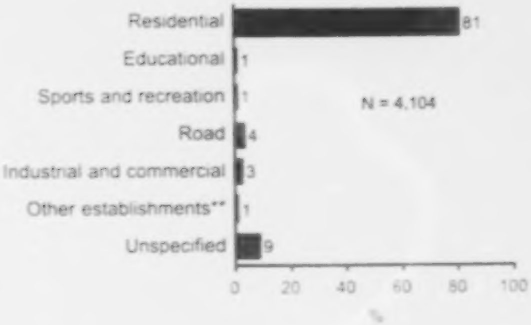
Injury, Illness and Death

Safety

The Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) collects data on visits to selected hospital emergency departments as a result of injuries (see note with chart). According to CHIRPP, infants are most likely to experience injury in the home environment. In 1997, of the 4,104 infants treated for injuries in CHIRPP hospitals, 3,300 were treated for injuries incurred in residential environments. This distribution of injuries by location is consistent with previous years. Safety measures to prevent injuries in the home are an important public health issue. These measures include age-appropriate supervision and modifications to the home environment (for example, baby gates blocking stairs).

2

Injuries by Location, Children Less Than 1 Year of Age
Canada*, 1997



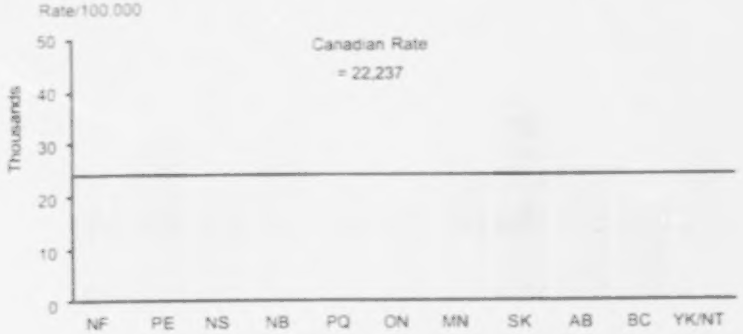
* Cases reported by 15 Canadian hospitals of which 10 are paediatric, participating in CHIRPP

** Includes hospital

Source: Special runs for CICH conducted by Health Canada, Bureau of Reproductive and Child Health

2.38

Hospitalization* All Causes, Children Less Than 1 Year of Age
Canada, Provinces and Territories, 1996-1997



	NF	PE	NS	NB	PQ	ON	MN	SK	AB	BC	YK/NT
Rate	23,049	32,097	21,241	33,186	23,349	19,097	23,332	38,901	26,254	19,963	29,751

* Acute care in-patient hospitalizations only

Source: Special runs conducted for CICH by the Canadian Institute of Health Information

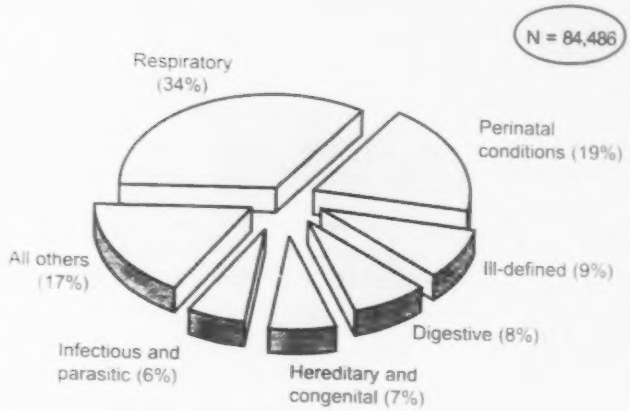
Hospitalization

Infant hospitalization rates were highest in Saskatchewan, New Brunswick and Prince Edward Island, and lowest in Ontario, British Columbia and Nova Scotia. These differences may be attributable, in part, to the varying proportions of rural, remote and Aboriginal children found in each province and territory. These groups experience higher rates of injury and they often must travel longer distances to reach medical services, increasing the likelihood of an overnight stay. These rates may also reflect differences in the management of care across jurisdictions. For example, the provinces with the lowest rates all have large children's hospitals offering comprehensive care.

The leading causes of infant hospitalization have not changed in the last decade. Respiratory problems are the most common single cause, accounting for one third of all hospital admissions for infants in 1996-97. This reflects the relative immaturity of the respiratory and immune systems at birth. Perinatal conditions accounted for almost one fifth of the hospitalizations in 1996-97.

2

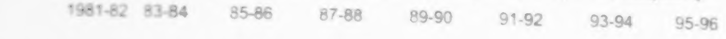
Hospitalization* by Leading Causes, Children Less Than 1 Year of Age
Canada, 1996-97



* Acute care in-patient hospitalizations only.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

2-40

Hospitalization Rates, Children Less Than 1 Year of Age*
Canada**, 1981-82 to 1995-96



	1981-82	83-84	85-86	87-88	89-90	91-92	93-94	95-96
Male ☐	34,795	33,676	33,648	32,109	32,392	30,298	27,833	26,684
Female ●	25,980	25,186	24,827	23,314	23,157	22,020	19,809	19,535

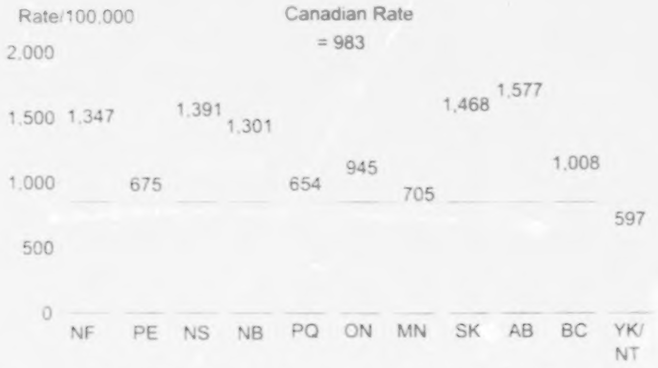
*Excludes newborns
** Excludes Yukon and Northwest Territories
Note: 1. Includes only those infants who were readmitted to hospital some time after birth.
Source: Hanvey, L. et al. 1994. *The Health of Canada's Children: A CICH Profile, 2nd Edition.* CICH using Canadian Institute for Health Information data and Statistics Canada Census data; Statistics Canada. Summary findings (see full citation in reference section).

Hospitalization rates for males and females under one year of age decreased steadily between 1980-81 and 1995-96. This is, at least in part, attributable to health reform. Male infants account for more hospital admissions than female infants. This consistent sex difference strongly suggests that male babies are more vulnerable to illness, particularly respiratory illness, than female babies.

The injury hospitalization rate for infants varied considerably across Canada. In 1996/97, among the provinces, it was highest in Alberta and Saskatchewan and lowest in Québec and Prince Edward Island. Note: the Yukon and Northwest Territories have been treated as one to increase their population base.

2 - 4 1

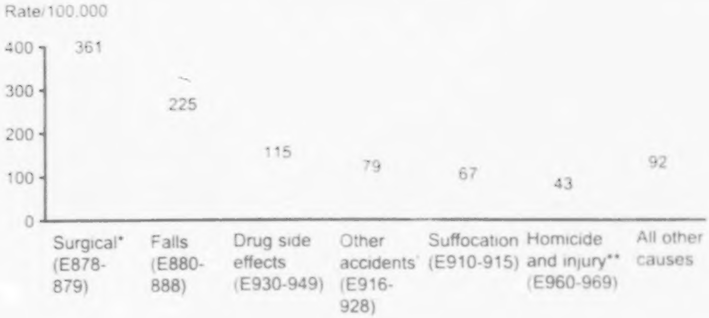
Injury Hospitalization Rates, Children Less Than One Year of Age
Canada, Provinces and Territories, 1996-1997



Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

2 - 4 2

Injury Hospitalization Rates, by Leading Cause, Children Less Than One Year of Age
Canada, 1996-1997



* Includes medical procedures as the cause of abnormal reaction of patient or later complication without mention of misadventure at the time of procedure.
** Injury purposely inflicted by other persons.
Note: E-codes from the International Classification of Diseases, 1975 Revision, Volume 1.
Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

In terms of clearly preventable injury, "falls" stand out as a significant cause. They are often described as "accidents", but it is important to recognize that they are usually preventable incidents. It is essential for parents and caregivers to recognize the risk factors that increase the likelihood of falls and take steps to reduce them.

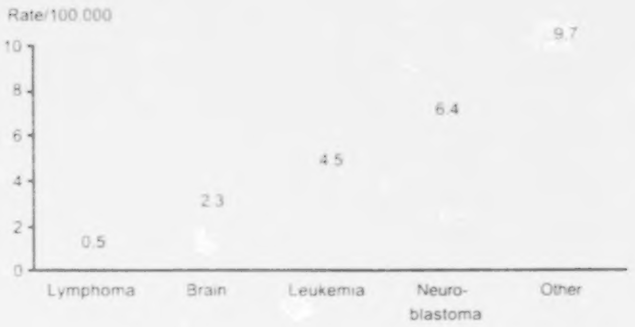
Cancer

The number of infants diagnosed with cancer in any given year is small. As a result, the Cancer Bureau reports a ten-year rate. The highest rates for 1985-94 were reported for neuroblastoma (6.4/100,000), leukemia (4.5/100,000) and brain (2.3/100,000). Cancer is a serious illness that profoundly affects a child's quality of life. Advances in treatments have improved outcomes for many types of cancer and more and more children are surviving.

2 — 3

Cancer Incidence Rates*, Children Less Than 1 Year of Age, by Main Cancer Type

Canada, 1985-1994



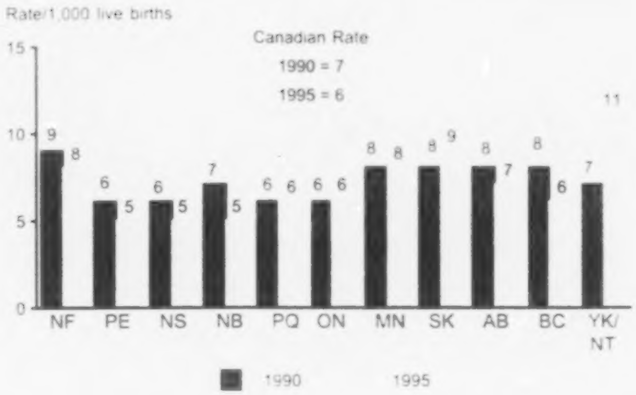
* Due to small numbers, Laboratory Centre for Disease Control calculated annualized rates for the ten year period.

Source: Health Canada, Laboratory Centre for Disease Control, 1999. *Measuring Up: A Health Surveillance Update on Canadian Children and Youth.*

2

Infant Death Rates

Canada, Provinces and Territories, 1990 and 1995



Source: Statistics Canada, 1997. *Births and Deaths, 1995.*

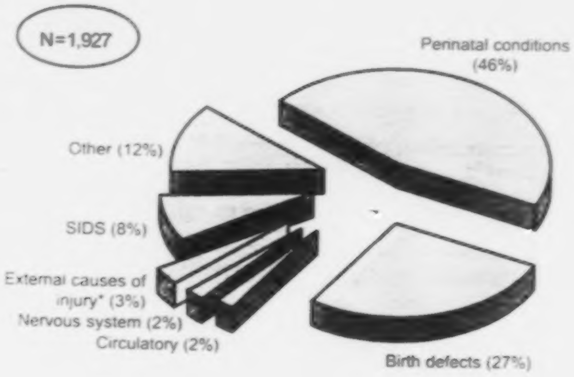
Infant Death

Between 1990 and 1995, infant death rates fell across Canada, except in Québec and Manitoba where the rates held steady, and in Saskatchewan and the Territories where it increased. The overall infant death rate fell to 6 per 1,000 live births, an historic low.

In 1997, 1,927 infants died. Perinatal conditions were the greatest single cause of death, accounting for 46% of all infant deaths. Birth defects accounted for another 27% and SIDS accounted for 8%.

2

Leading Causes of Death,
Children Less Than 1 Year of Age
Canada, 1997

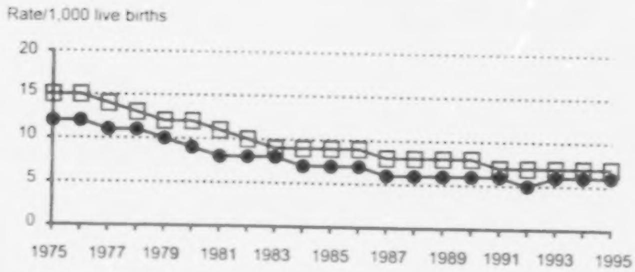


* Includes poisonings and self-inflicted injuries.
Source: Statistics Canada. 1999. *Leading Causes of Death at Different Ages, Canada, 1997.* Shelf Tables.

2 - 4 6

Infant death rates, for both genders, have been declining over the last two decades. However, the male rate has remained consistently higher than the female rate. This is consistent with the higher rate of hospitalization for infant males than infant females.

Infants Death Rates
Canada, 1975-1995



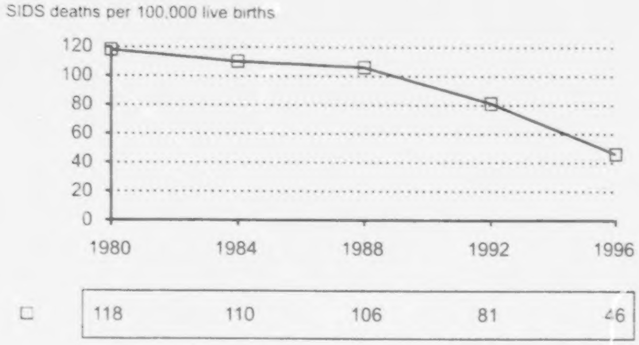
	1975	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995
Male ☐	15	14	12	11	9	9	8	8	7	7	7
Female ●	12	11	10	8	8	7	6	6	6	6	6

Source: Statistics Canada. 1997. *Birth and Deaths. 1995.*

Between 1980 and 1996, the SIDS rates decreased somewhat. According to the Joint Statement of The Canadian Foundation for the Study of Infant Deaths, Canadian Institute of Child Health, the Canadian Paediatric Society and Health Canada, "Sudden Infant Death Syndrome refers to the sudden and unexpected death of an apparently healthy infant usually less than one year of age, which remains unexplained even after a full investigation". Although the underlying causes or mechanisms of SIDS remain uncertain, research has demonstrated that infants who sleep on their backs have the lowest risk for SIDS. Other factors potentially associated with an elevated risk of SIDS include smoking during pregnancy, exposure to environmental tobacco smoke after birth, and infant overheating.

2

Sudden Infant Death Syndrome (SIDS) Rates
Canada, 1980-1996



Source: Health Canada. 1999. *Canadian Perinatal Surveillance System.*

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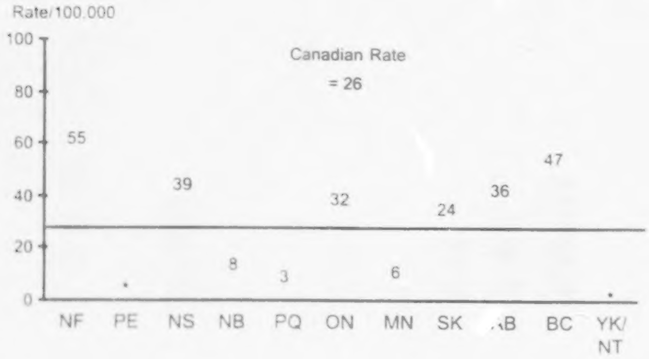
Injury Death Rates, Children Less Than One Year of Age
Canada, Provinces and Territories, 1994-1996 (3-year Rate)



* Numbers too small to report.
Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

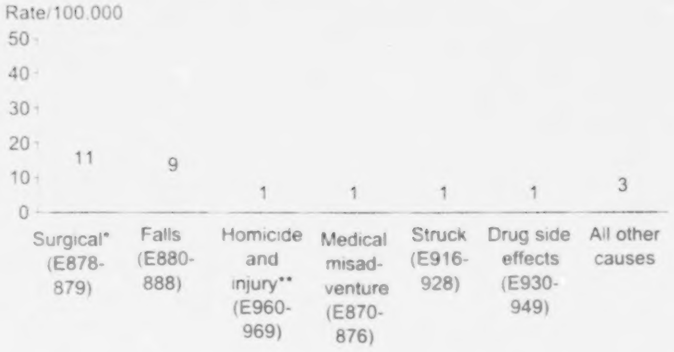
Relatively few infants die from injuries in Canada. There are substantial variations between provinces in the injury death rate. Based on a three-year rate, Newfoundland and British Columbia had the highest injury death rates and the Territories and Prince Edward Island had rates too small to report. Note: The Territories and Prince Edward Island have small population bases relative to the other provinces.

Injury death rates are calculated based only on deaths that occur after admission to hospital. The rates were calculated using a three-year rate because of the relatively small numbers. The injuries referred to may have been intentional or unintentional. Between 1994 and 1997, the greatest single cause of injury death (with the exception of surgery) was falling. Infants died after admission to hospitals from falls at a rate of 9 per 100,000 during this period. Homicide was another important cause; infants died in hospitals as a result of homicide at a three-year rate of 1 per 100,000.

2 - 49

Injury Death Rates by Leading Cause, Children Under 1 Year of Age

Canada, 1994-95 to 1996-97 (3-Year Rate)



* Includes medical procedures as the cause of abnormal reaction of patient or later complication, without mention of misadventure at the time of procedure.

** Injury purposely inflicted by other persons.

Note: E-codes from the International Classification of Diseases, 1975 Revision, Volume 1.

Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

2 - 50

Infant Mortality as a Percent of Live Births

Canada and International, 1984-1994

	Canada	Netherlands	Norway	U.K.	U.S.
1994	6.3	5.6	5.3	6.2	8.0
1995	6.1	5.5	4.0	6.2	7.6
1996	5.6	5.7	4.0	6.1	7.3

Source: Guyer, B. et al. 1998. Annual Summary of Vital Statistics - 1997. *Pediatrics* Vol. 102, No. 6.

Compared with the U.S. and the U.K., the infant mortality rate is low in Canada, but there is room for improvement. Other countries, such as Norway, have managed to achieve lower infant mortality rates.

Perinatal mortality, defined as stillbirths (fetal death) and early neonatal deaths (before the seventh completed day of life), is considered a better indicator than infant mortality in countries with low infant mortality. Its more narrow focus permits a closer investigation of health status at birth. Perinatal mortality is influenced by such factors as the age of the mother, her health, and her socio-economic circumstances. It is also influenced by the period of gestation and birth weight, with preterm and low birth weight babies at increased risk for perinatal mortality. Canada's perinatal mortality rate is relatively low compared with other developed countries.

2-51

Perinatal Mortality*

Canada and International, 1984, 1986, 1988 and 1990

Rate per 1,000

	1984	1986	1988	1990
Canada	9	8	8	8
Netherlands	10	10	9	10
Norway	9	8	8	8
U.K.	10	10	9	8
U.S.	11	10	10	N/A

* Percent of live births and stillbirths.
Source: Phipps, S. 1999. *International Comparison of Outcomes for Children.* Canadian Policy Research Network Study No. F5.

Pregnancy, Birth and Infancy

by Ms. Ann Schulman

Healthy pregnancies and positive outcomes at birth are the norm in our society. Infants, by and large, have a good start in life. However, as Canada moves into the 21st century, there are trends and existing factors that affect the outcome of a pregnancy, which must be examined closely.

A startling increase in multiple births occurred during the 1990s. As more women delay their first pregnancy, fertility issues arise that are treated with newly developed reproductive technology. The increasing use of new techniques has resulted in an increase in multiple births. Health issues associated with multiple births, such as preterm birth and low birth weight and the not yet fully understood implications of reproductive technology, must be measured against the advantages of reproductive technology.

Research into the prevention of preterm birth and congenital anomalies is progressing slowly. Clinical advances have resulted in dramatic improvements in rates of survival for both preterm infants and babies born with malformations. However, many of these infants suffer long term consequences which result in huge costs both personally and economically. Folic acid dietary fortification has been shown in other countries to be effective in the prevention of a significant proportion of neural tube defects and other congenital malformations. Canada has yet to conclude an evaluation on folate fortification and this delay is of concern. As well, due to the increase of chemicals in the environment, epidemiological and basic research is needed on the relationship of environmental contaminants and congenital malformation.

The negative impacts of smoking tobacco on pregnancy and birth remain a major concern. Low birth weight has not decreased over the last 10 years, especially among infants of women who are of lower socio-economic status and who smoke tobacco. The leading cause of hospitalizations for infants in 1996-1997 was respiratory conditions that may be connected with maternal or other environmental tobacco smoke. Smoking is also associated with Sudden Infant Death Syndrome. Since smoking during pregnancy and after the birth of the child continues to be a relatively common behaviour, it is necessary to find more effective ways to educate about the effects of smoking on maternal health and the health of the fetus and infant. All substance abuse/misuse (including alcohol and other drugs) during pregnancy continues to require attention and renewed education and prevention efforts.

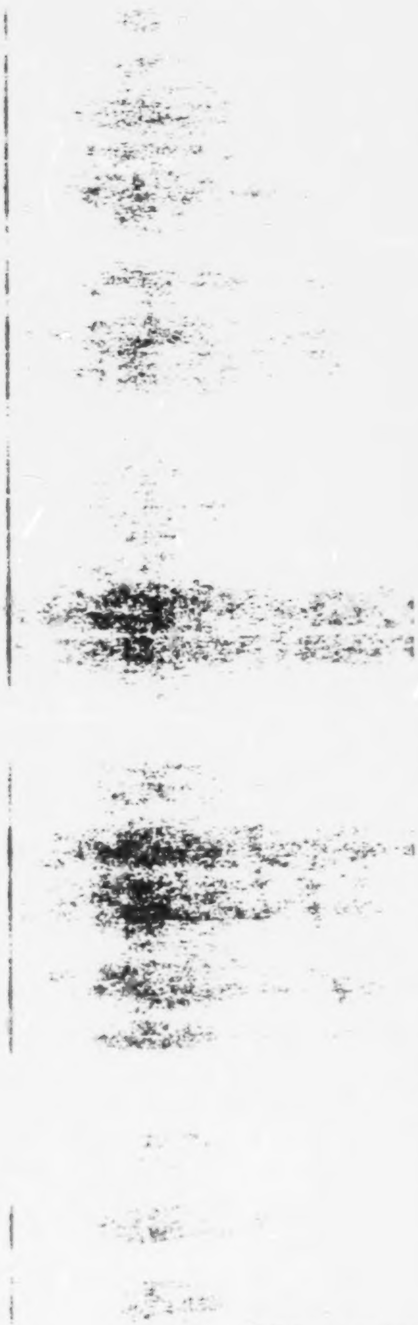
Information about healthy pregnancy and birth is widely available to women in the preconception and prenatal stages. There is still a great deal of work to be done in reaching women in disadvantageous situations with this information. Traditional methods of health education do not effectively serve women whose needs are the greatest. It is imperative that creative strategies are developed at the community level to reach all women with reliable and meaningful information and services.

While pregnancy and childbirth are largely a healthy experience in Canada, there is no room for complacency. There is instead a need for extra effort to bring, to all women in Canada, excellence in education and services around pregnancy, childbirth and parenthood.

Ms. Ann Schulman, who began her career as a pediatric nurse, has been the Executive Director of the Saskatchewan Institute on Prevention of Handicaps since 1987, working diligently to promote and respond to issues that have a direct impact on the health of children. The Prevention Institute focuses on reproductive health, substance abuse during pregnancy, childhood injury and the neglect and abuse of children. Ms. Schulman is also the driving force behind "Circle Camp O' Friends", a camp for children with cancer and their siblings.

Chapter 3

Preschool



Do parenting styles make a difference to child health and well-being?

Characterizing parenting styles is a difficult undertaking. One approach, using NLSCY data, divides parenting styles into four broad categories: permissive/irrational, authoritarian, authoritative and permissive. The prevalence of childhood problems was highest among children whose parents employed a permissive/irrational parenting style and lowest among children whose parents were authoritative. Identifying policies and services that support and empower parents is important to healthy child development.

Are preschoolers in Canada growing up in safe and nurturing environments?

Infectious childhood diseases were, until recently, a significant cause of illness, disability and death. As a consequence of high levels of immunization, children in Canada generally enjoy a high level of safety from the serious infectious diseases of childhood. This relatively new form of safety for children requires constant vigilance to maintain and must not be taken for granted.

Children in Canada, both boys and girls, are increasingly safe from unintentional injuries (the rate has decreased steadily in recent years), although this too hinges on constant vigilance. Each child must be kept safe every day through measures such as: age-appropriate supervision, the consistent use of car seats, bicycle helmets and other safety equipment, and the modification of children's living spaces in accordance with their developmental stage. Safety habits need to be taught young and reinforced throughout childhood to effectively reduce the rate of injuries. Society needs to recognize that most injuries are not "accidents", but predictable and preventable events which require action at all levels (family, community and society).

Not all children in Canada encounter the same safety issues. The safety of young children is further investigated in the chapters on Income Inequity, Aboriginal Children and Youth and Children's Environmental Health. Income inequity is an important determinant of housing and neighbourhood safety. Poor children are less likely to live in well-maintained homes, to have access to clean, well-maintained play spaces, and to have opportunities to participate in organized recreational activities. They are more likely to live close to high traffic corridors and to be exposed to environmental contaminants. These factors place them at increased risk of injury and illness. Far too many Aboriginal children also live in poverty and, consequently, live in conditions that place them at elevated risk of injury.

How do children spend the day when not in the care of their parents?

The majority of children who are in non-parental child care during the day are in unregulated care or the care of a relative. Families' experiences with unregulated child care arrangements may be very satisfactory; however, unregulated child care cannot guarantee basic standards and quality control measures. More information about the conditions of care and the content of the child care programs is needed to determine whether unregulated care generally meets other standards for high quality care. The use of regulated child care is limited by such factors as the availability of spaces, fees and income subsidy levels. The extent to which either regulated or unregulated child care programs are developmentally-based is largely unknown.

During the preschool years, the brain and nervous system undergo intense development. The physical and social environments of the child are not simply the setting in which development unfolds; instead they are an integral part of the development process. Further details on the importance of a healthy physical environment (e.g. clean water, clean air, safe and nutritious food) are discussed in the chapter on Children's Environmental Health. A positive, nurturing social environment increases the likelihood of lasting strengths in the areas of learning, behaviour and emotional control and improved health throughout the life cycle. Research suggests that the caregiver-child relationship is a crucial aspect of a child's social environment.

Are we offering families the support that they need to raise healthy children?

To raise healthy children, all families need adequate income, supportive family policies in the workplace, and access to health care and social services, recreational programs and high quality child care. This chapter profiles a few of these issues. Access to affordable, high quality child care is clearly a serious problem, as is access to community programs. The Community Action Program for Children (CAPC) funds programs for children and parents living in need. However, they currently serve only a small percentage of such families. Families with children under the age of seven are less likely than other families to have adequate income (see the chapter on Income Inequity). The absence of these community supports increases the stressors on families.

What are the major health problems of preschoolers?

Preschoolers in Canada are generally healthy. However, there are some areas of concern. Asthma, one of the prevalent chronic conditions in Canada, makes an appearance in the preschool years. Male preschoolers are more likely to be diagnosed with asthma than female preschoolers. Asthma, along with other chronic conditions, contributes to the overall rate of respiratory illness. Respiratory illness is, in general, the greatest single cause of hospital admissions among preschoolers. Although the prevalence is low, childhood cancer is the most common life threatening disease affecting children in Canada; leukemia and lymphoma are the most commonly diagnosed cancers in the preschool years. For many types of childhood cancer, survival rates are improving. The death rate for all causes for preschool children, which has decreased continuously since 1975, fell substantially for both males and females between 1990 and 1995.

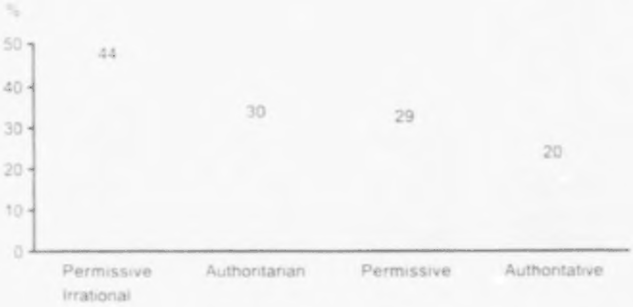
Healthy Development Determinants

Parents

According to an extensive body of scientific research, the parent-child relationship is a crucial factor in the healthy development of the brain (McCain and Mustard, 1999). The early environments and experiences of children affect their physical, emotional, social and intellectual development. Using data from the NLSCY, Willms (1999) determined that young children whose parents employed permissive-irrational parenting styles were significantly more likely to have emotional or behavioural problems than children whose parents employed authoritarian, permissive or authoritative styles. The lowest prevalence of problems at this age was found among children with authoritative parents.

3

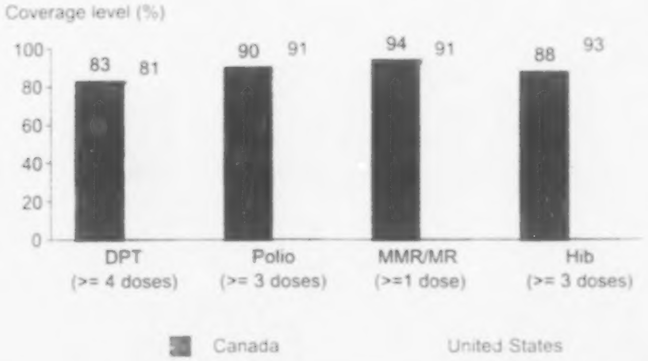
The Prevalence of Children with Difficulties, by Parenting Style
Canada, 1994



Source: Willms, J.D. 1999. Unpublished analysis of NLSCY data. In McCain, M. et al. 1999. *Reversing The Real Brain Drain. Early Years Study: Final Report. 1999.*

3

Reported Immunization Coverage
Canada*, 1998, and USA**, 1997



*Canada, ages 24-35 months; 1995-1996 birth cohorts.
**USA, ages 19-35 months; 1994-1996 birth cohorts.
Source: Health Canada. Laboratory Centre for Disease Control. 1999. *Measuring Up: A Health Surveillance Update on Canadian Children and Youth.*

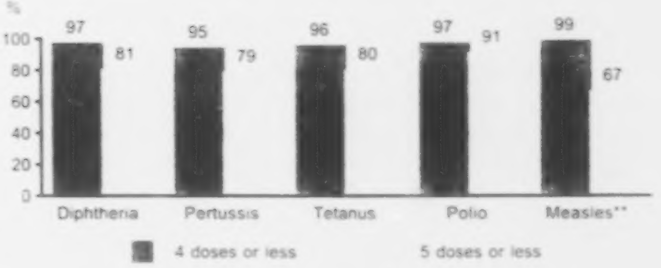
Immunization

Immunization coverage is comparable between Canada and the US. Coverage is high for all recommended vaccines. The maintenance of immunization status throughout childhood is essential if epidemics and smaller outbreaks are to be prevented. Also, long term adverse consequences are greater for some diseases if infection occurs during childhood (Health Canada, 1999f).

Immunization coverage by the age of 7 years was very high if one examines the "4 doses or less" category. The coverage was reduced if one examines the "5 doses or less" category. High rates of vaccine coverage are important tools in avoiding unnecessary, preventable deaths and epidemics. Public awareness of the effectiveness and safety of vaccines is necessary in maintaining these high rates.

3 - 3

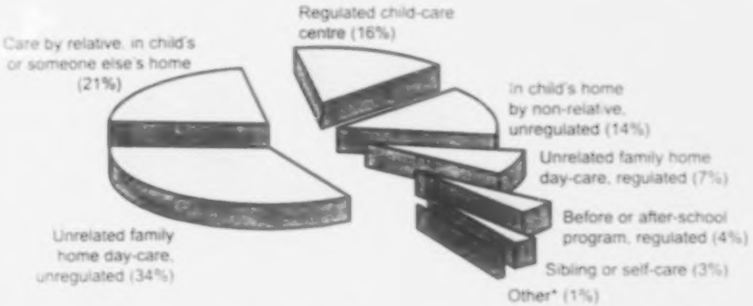
National Estimates of Immunization Coverage*
by the 7th Birthday
Canada, 1997-1998



*Coverage is based on only those vaccine doses received before or on the date of the child's seventh birthday.
** Coverage is based on measles vaccine dose(s) received at any time.
Note: In the 4 or less dose category, Diphthena, Pertussis and Tetanus are based on 4 doses; Polio is based on greater than or equal to 3 doses; Measles is based on greater than or equal to 1 dose. In the 5 or less dose category, Diphtheria, Pertussis and Tetanus are based on 5 doses; Polio is based on greater than or equal to 4 doses; Measles is based on 2 doses.
Source: Health Canada. 1999. Canadian National Report on Immunization, 1998. *Paediatrics & Child Health*. Vol. 4, Supplement C.

3 - 4

Distribution of Children From Birth to 11 Years, by Type of Non-Parental Child Care Arrangement
Canada, 1994-1995



* Estimate less reliable due to high sampling variability.
Source: Ross, D.P. et al. 1996. *Overview: Children in Canada in the 1990s.* In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada. NLSCY.*

Child Care

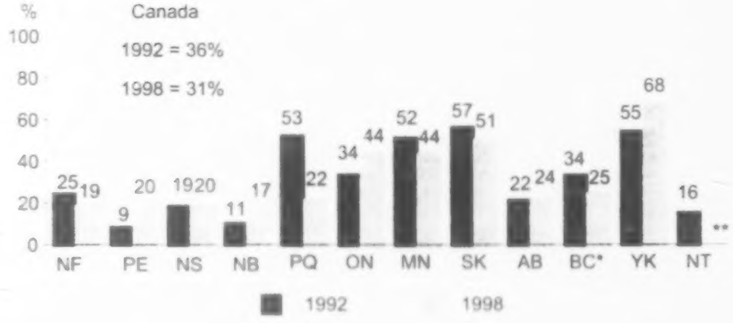
According to the 1994-95 NLSCY, 27% of children from birth to 11 years of age in non-parental child care were in regulated child care. The remaining 73% were in a variety of unregulated child care arrangements. Child care regulations are important to positive child outcomes. Parents placing their children in unregulated care cannot be guaranteed that health and safety standards are met, or that the child care program is developmentally-based. However, regulated child care in Canada is not always available, affordable or high quality. Québec alone has introduced a province-wide, publicly-funded, regulated child care program.

In all provinces except Québec, fee subsidies are an important route to access regulated child care for low or modest income families; some or all of the cost of the subsidized child's participation may be paid by government. This table shows several things. First, the range of percent of children subsidized is considerable across jurisdictions; from 10% to 68%. Second, in most provinces, the proportion who are subsidized has been essentially static or has dropped over the 1990s. Third, the proportion of subsidized children dropped nationally, even if the Québec figures (publicly-funded since 1996) are excluded (The Childcare Research and Resource Unit, forthcoming).

3 - 5

Percentage of Children in Regulated Child Care Who Are Subsidized

Canada, Provinces and Territories, 1992 and 1998

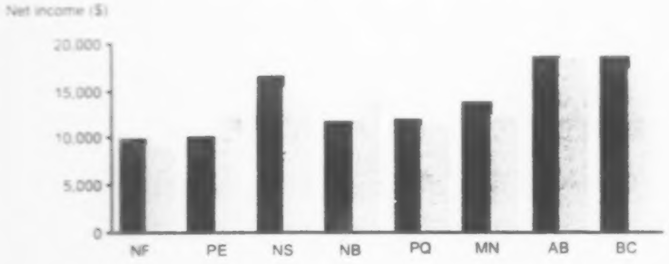


* As subsidies may be used in unregulated care in British Columbia, these figures are estimates.
** Percentage not available for Northwest Territories in 1998.
Note: Quebec began phasing out subsidies in 1997 as publicly-funded services were introduced.
Source: The Childcare Resource and Research Unit. 2000. Centre for Urban and Community Studies. University of Toronto. *Early Childhood Care and Education in Canada. Provinces and Territories* 1998.

3 - 6

Net Income Eligibility Levels for Full Subsidy, One-Parent, One-Child Family

Canada and Provinces, 1992 and 1998



	NF	PE	NS	NB	PQ	MN	AB	BC
■ 1992 (1992 $)	9,960	10,080	16,500	11,664	12,000	13,787	18,710	18,756
1998 (1992 $)	9,188	12,679	15,495	13,953	11,278	12,387	18,537	17,196

Note: Figures for Ontario, Saskachewan, Yukon and Northwest Territories were not available. All figures are adjusted to 1992 dollars

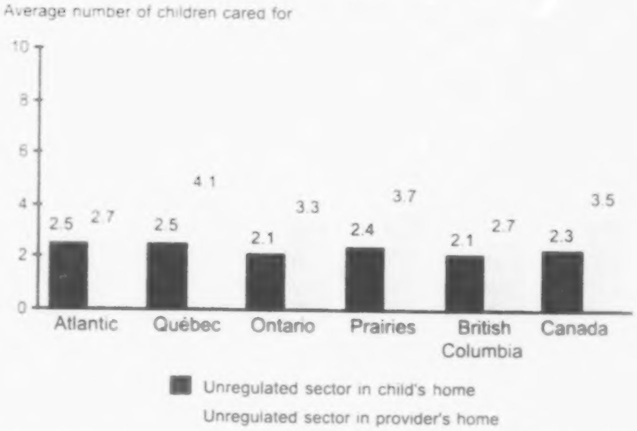
Source: The Childcare Resource and Research Unit. 2000. Centre for Urban and Community Studies. University of Toronto. *Early Childhood Care and Education in Canada,* 1998. Provinces and Territories 1998.

Of the ten provincial/territorial jurisdictions for which this information is available, between 1992 and 1998, subsidy eligibility levels diminished in seven (comparing actual 1992 dollars). It should be noted that there are a number of ways access to regulated child care is limited for low and modest income families; income eligibility for a fee subsidy is but one of them (The Childcare Research and Resource Unit, forthcoming).

A recent survey of the unregulated child care sector provides a rare look at the conditions under which care is provided to children in home-based care. One factor affecting the child care environment is the number of children cared for at any given time. When child care is provided in the child's home, the average number of children per caregiver is 2.3. When care is provided in the provider's home, the average number of children per caregiver is 3.5. These ratios are reasonable as averages, but may conceal wide ranges. Although the child-to-caregiver ratio is important, the education and experience of the caregivers also strongly affect the quality of care.

3

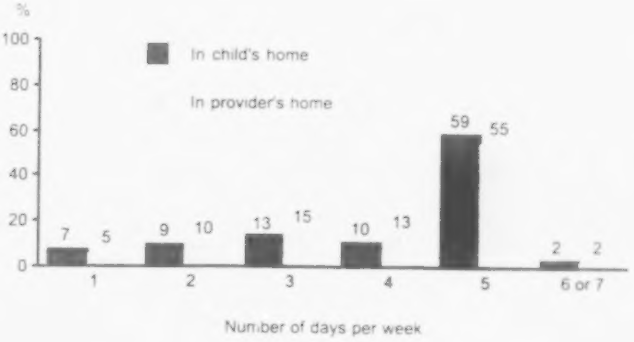
Average Number of Children Per Caregiver, Per Day, Unregulated Child Care Sector
Canada and Regions, 1998



Source: Canadian Child Care Federation. 1998. *Providing Home Child Care for a Living. A Survey of Providers Working in the Unregulated Sector in Their Own Home.* Canadian Child Care Federation. 1998. *Providing Home Child Care for a Living. A Survey of Providers Working in the Unregulated Sector in the Child's Home.*

3 - 8

Percentage of Children* Regularly Cared for in Their Own Home and Home of a Provider, by Number of Days Per Week
Canada, 1998



* Includes children attending child care regularly only.
Source: Canadian Child Care Federation. 1998. *Providing Home Child Care for a Living. A Survey of Providers Working in the Unregulated Sector in Their Own Home.*

The majority of children who are in unregulated care attend five days a week. Further, these children tend to be in child care for the full day. This finding indicates that parents do not use the unregulated system as a supplement for full-time regulated child care. Rather, it is their full-time child care arrangement. Survey results indicate that child care providers in the unregulated sector are often committed to providing high quality care. However, without regulation, health and safety standards are not guaranteed. Although some parents may prefer a particular unregulated child care arrangement, many others may simply be unable to secure an affordable, high quality, regulated child care space.

87

Programs for Children

Community Action Program for Children (CAPC) "funds prevention and early intervention activities designed to help children get a better start in life, to prepare them for school, and to improve their chances of growing into healthy adults who can participate in Canadian society" (Health Canada, 1999j). The program targets young children and families living in conditions of risk. Risk can be a function of such factors as income, education, family structure, the age of the mother, parental emotional well-being, and parenting practices. Aboriginal children and children from families new to Canada are more likely to live in poverty and to encounter other risk factors.

3 - 9

Participation in CAPC Programs*
Canada, 1997-1998

34,790 children participated in CAPC programs each week.

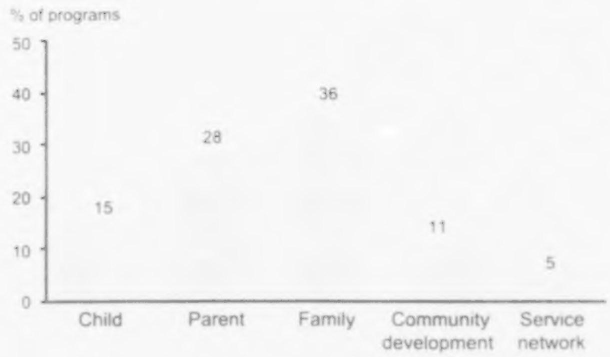
2,242 children were from Aboriginal families, participating in programs with an Aboriginal focus.**

4,037 children from other specified cultures participated in programs with a focus on other specified cultures.

* Using data from Form C, Cycle 8 (October 1998 - March 1999). Highlights of Community Action Program for Children National Process Evaluation Data, 1999.
** The total number of Aboriginal participants attending CAPC programs may be higher as they may also attend programs with other specified cultural focus or no identified cultural focus.
Note: CAPC = Community Action Program for Children.
Source: Highlights of Community Action Program for Children National Process Evaluation Data, 1999.

3 - 10

Program Focus of CAPC
CAPC, 1997



Note: Based on 1,859 programs

Source: Health Canada. 1999. *Community Action Program for Children (CAPC) National evaluation preliminary findings.*

Overall, CAPC-funded programs tend to target the family unit or the parents rather than the child. The goal of these programs is to change the environment in which children grow and develop, by supporting parents. The CAPC Evaluation found that programs addressing the risk factors affecting families may have a positive impact on child health and functioning, reducing emotional and behavioural problems (Health Canada, 1999g). Currently, CAPC-funded programs serve a small proportion of families with young children living in conditions of risk.

CAPC activities and programs are intended to address the needs of children at risk. Health is one measure of a child's risk status. CAPC parents were more likely to indicate that their children were in poor, fair or good health than NLSCY parents and less likely to indicate that they were in excellent or very good health. Although CAPC programs are reaching their target group, they are providing services to only a small proportion of the children who would benefit from them. One-fifth of Canadian children, or approximately 1.25 million, are estimated to be living in risk due to low income. Only a fraction of these children have been served by CAPC programs.

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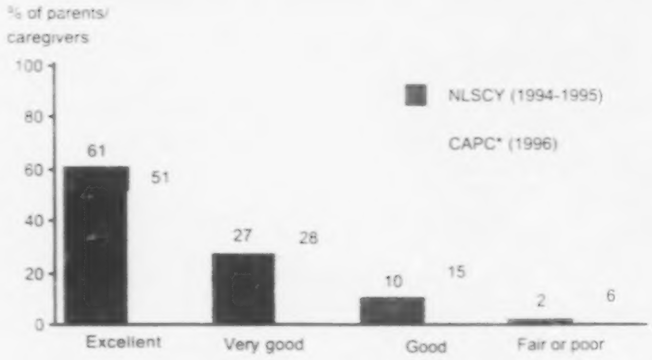
Caregivers' Perception of Children's Health
CAPC and NLSCY



* N = 1,186 for CAPC.
Source: Health Canada. 1999. *Community Action Program for Children (CAPC). National evaluation preliminary findings.*

3 - 1 2

Outcome Evaluation Data, Programs for Children

Although many and diverse programs have been developed to promote healthy early child development, few randomized controlled studies have been undertaken and little reliable outcome evaluation data are available. Without this kind of information, it is difficult to determine what works for children and their parents and why. Outcome evaluation data are essential to appropriate planning and program development.

Early Brain Development

Those factors that contribute to healthy early childhood development may also be key components in the promotion of resilience in children.

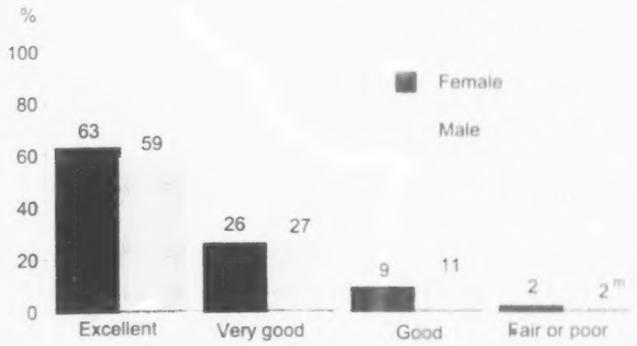
3 - 13

Early Brain Development

- Early brain development is interactive, rapid and dramatic.
- The quality of sensory stimulation (through nurturing and care) and nutrition affect early brain development, influencing learning, behaviour and health throughout the life cycle.
- Some critical or sensitive periods of brain development occur during the first years of life.
- Environments that provide positive stimulation and nutrition during the early years foster optimal physical, emotional, social and intellectual development.
- An environment of neglect and/or abuse during the early years contributes to later learning, behavioural, emotional and physical health problems.
- Adult- and child-oriented initiatives that include nutrition, parenting/caregiver support and opportunities for play with other children are the most effective in enhancing early child development outcomes.

Source: McCain et al. 1999. Reversing the *Real Brain Drain: Early Years Study, Final Report.*

3 - 14



Parent-Reported Child Health Status
Aged 1-4, by Gender
NLSCY, 1996-97

m= high sampling variability- interpret with caution
Source: Special run of the 1996-97 NLSCY data conducted for CICH by Statistics Canada.

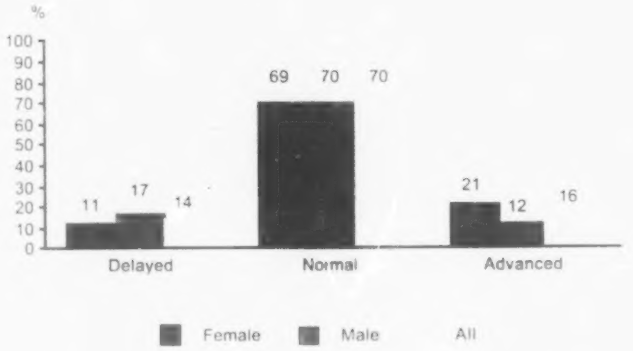
Health and Well-Being Outcomes

According to 1996-97 NLSCY, the vast majority of children aged 1-4 years were reported by their parents to be in excellent or very good health. Only 2% of males and females were reported to be in fair or poor health. Being in excellent or very good health does not preclude the presence of an activity limitation.

Although the majority of children birth to 3 years of age experienced "normal" or "advanced" motor and social development relative to their peers, about 14% experienced "delayed" development. Females (21%) were more likely to have advanced social and motor development for their age than their male peers (12%). Males (17%) were somewhat more likely to have delayed motor and social development for their age than their female peers (11%). The early assessment of children with delayed development, and early intervention when problems are identified, benefits both the children and their parents.

3 - 15

Motor and Social Development Level, Birth to 3 Years of Age, by Gender
NLSCY, 1996-1997



Source: Special run of the 1996/97 NLSCY data conducted for CICH by Statistics Canada.

3 - 16

The Impact of TV Modeling on the Developing Child

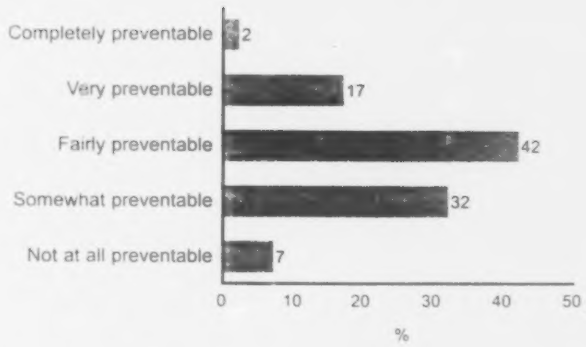
In 1996, 86% of children aged 4 to 5 years watched television everyday (CCSD, 1999). More national and provincial studies on the amount of time children in Canada spend watching television, the content of their viewing habits, and the implications for their health and well-being are urgently needed. However, we do know that time spent watching television equates to less time spent outdoors, engaging in active play, or interacting socially. Of particular concern is the significant amount of advertising directed at children and adolescents, the societal 'norms' portrayed, and the behavioural role modeling of gender relationships.

Injuries

There is a consensus among experts that most injuries are predictable, preventable events with identifiable risk factors that can be minimized (Smartrisk, 1998). Parents are less likely to hold this view, the majority seeing injuries as only "fairly" or "somewhat" preventable. This discrepancy demonstrates the need for strong ties between injury research and public health policy and education.

3-17

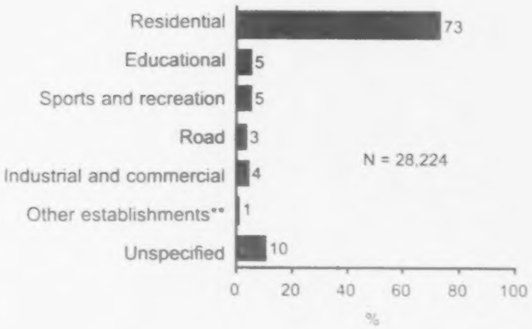
Preventability of Childhood Injuries, Parents' Perceptions
Canada, 1995



Source: Health Canada, 1996. *Parental Attitudes Toward Unintentional Childhood Injuries.*

3-18

Injuries by Location, Children Aged 1-4 Years
Canada*, 1997



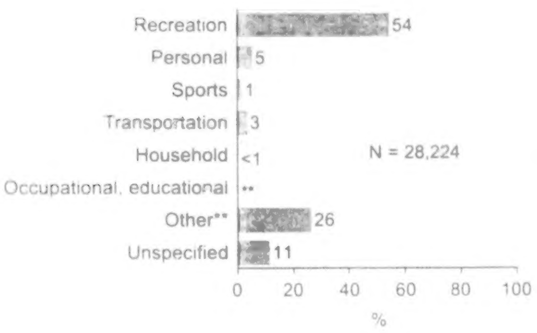
* Cases reported by 15 Canadian hospitals of which 10 are paediatric, participating in the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP).
** Includes hospital.
Source: Special runs conducted for CICH by Health Canada, Bureau of Reproductive and Child Health.

Preschool children spend most of their time in residential environments (usually their own home or the home of a caregiver). Of injuries seen in CHIRPP* hospital emergency rooms in 1997, 73% of those for preschool children occurred in the residential environment. This highlights the need for appropriate supervision and protection in a home environment that has been adapted to the developmental stage of the child. For example, toddlers can be protected from injuries due to falling down stairs through a combination of adult supervision and infant gates on stairs. Older preschoolers can be protected from poisonings through a combination of supervision and the safe storage of all drugs and toxic substances.

Children are generally engaged in the normal, everyday activities of childhood when they are injured. They are playing (54%) or meeting their personal needs (5%). These figures highlight the importance of injury prevention through safety measures, consistent with the developmental stage of the child, and aimed at adapting the home environment. The aim of these safety measures is not to restrict unduly the activities of the child but, rather, to ensure that those activities can be carried out without unnecessary risk. For example, feeding oneself is an important step in development and can be made safer by the appropriate preparation of food.

3-19

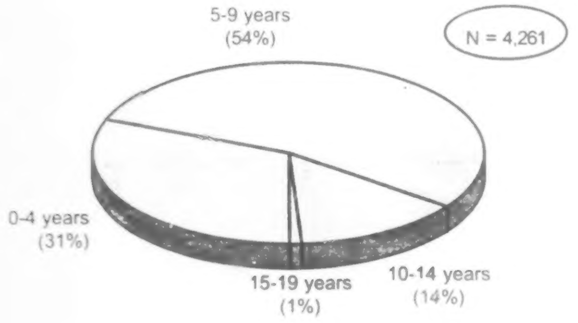
Injuries by Activity, Children Aged 1-4 Years
Canada*, 1997



* Cases reported by 15 Canadian hospitals of which 10 are paediatric, participating in CHIRPP
** Includes walking, sitting and running.
Source: Special runs conducted for CICH by Health Canada, Bureau of Reproductive and Child Health

3-20

Percentage of Injuries on Playground Equipment, by Age Group
CHIRPP*, 1996



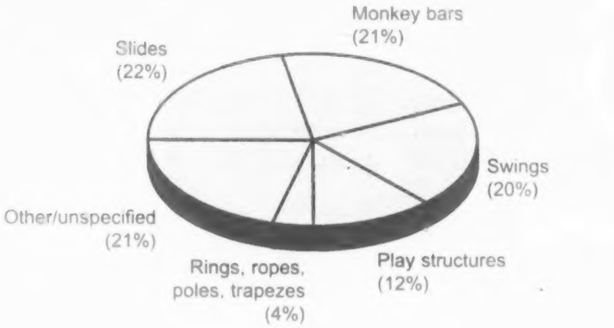
* CHIRPP = Canadian Hospitals Injury Reporting and Prevention Program.
Source: Health Canada. 1999. *CHIRPP Injury Reports - Injuries Associated with Playground Equipment.*

Playground safety is a continuing issue in child safety. According to CHIRPP, school age children, aged 5 to 9 years, account for the majority of playground injuries (54%) seen in emergency rooms, but preschool children account for a full 31%. The most common injuries are fractures (especially of the forearm) which account for 38.9% of injuries, and bruises, abrasions and inflammations (especially of the head and neck) which account for another 24.4%. Preschool children require constant supervision when using playground equipment. Further, the preschool years are an excellent time to instill playground safety habits.

Playground equipment presents a number of potential hazards to children. According to CHIRPP, slides, monkey bars and swings account for the greatest percentage of playground injuries seen in emergency rooms. The vast majority of these injuries are incurred when children fall off equipment. Beyond adult supervision, it is crucial to ensure that the playground environment is designed to minimize the risk of injury. For example, as children are likely to fall, the ground under the play equipment should consist of materials that can absorb the fall.

3 - 21

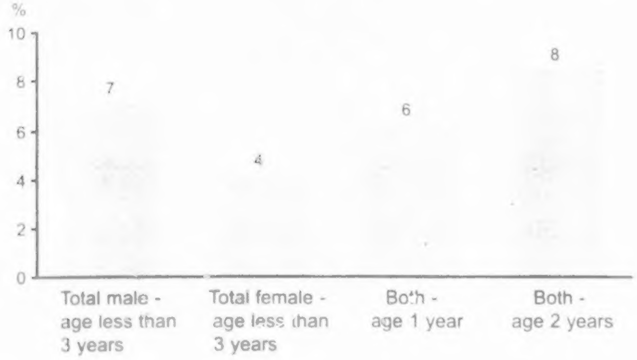
Percentage of Injuries on Playground Equipment, by Type
CHIRPP*, 1996



* CHIRPP = Canadian Hospitals Injury Reporting and Prevention Program.
Source: Health Canada. 1999. *CHIRPP Injury Reports - Injuries Associated with Playground Equipment.*

3 - 22

Prevalence of Asthma Among Children Aged Less Than 3 Years, by Selected Characteristics
Canada, Excluding Territories, 1994-1995



Source: Chen, J. et al. Statistics Canada. 1998. Birth Outcome, the Social Environment and Child Health. *Health Reports.* Vol. 10 No. 4.

Chronic Illness

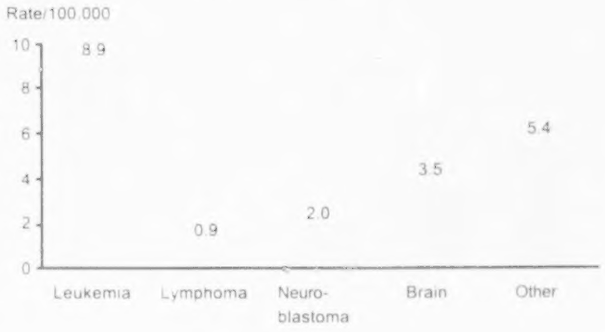
Asthma, a chronic inflammatory disorder of the airways, is one of the most prevalent chronic conditions in Canada. Many children are first diagnosed with asthma during their preschool years. Many experts assert that asthma is not reliably diagnosed before age one as diagnosis depends on identifying a pattern of recurrent respiratory distress. 6% of children aged 1 year and 8% of children aged 2 years have been diagnosed with asthma. Males are more likely than females to be diagnosed with asthma in the early years. Environmental contaminants have been linked with the increasing prevalence of asthma.

Cancer

The cancer incidence rate is defined as the number of new cases of cancer in children of a particular age group per 100,000 children of that age group. Although rare, childhood cancer is the most common life threatening illness affecting children in Canada. Fortunately, the prognosis for children affected by cancer has steadily improved, with two-thirds of children diagnosed with cancer surviving at least ten years (Health Canada, 1999h). Leukemia and brain cancer are the most commonly diagnosed forms of cancer during the preschool years. The underlying causes of these cancers remain uncertain.

3-23

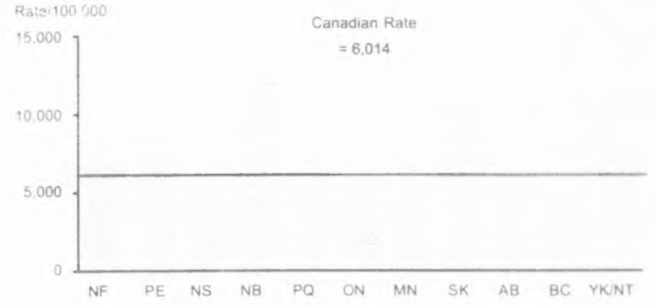
Cancer Incidence Rates*, Children Aged 1-4 Years, by Main Cancer Type
Canada, 1985-1994



* Due to small numbers, Laboratory Centre for Disease Control calculated annualized rates for the ten year period.
Source: Health Canada, Laboratory Centre for Disease Control, 1999. *Measuring Up: A Health Surveillance Update on Canadian Children and Youth.*

3-24

Hospitalization* All Causes, Children Aged 1-4 Years
Canada, Provinces and Territories, 1996-1997



	NF	PE	NS	NB	PQ	ON	MN	SK	AB	BC	YK/NT
Rate/ 100,000	6,904	8,651	5,698	12,048	6,271	5,282	5,427	11,087	6,036	5,120	8,129

* Acute care in-patient hospitalizations only.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

Hospitalization

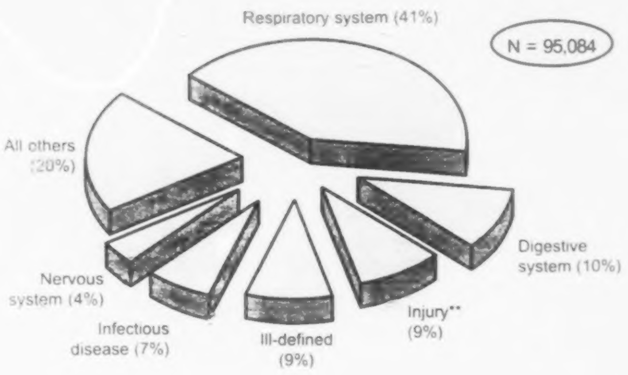
In 1996-97, hospitalization rates for children aged 1 to 4 years were highest in New Brunswick (12,048/100,000) and lowest in British Columbia (5,120/100,000). Hospitalization rates are not entirely explained by similar variations in the rate of childhood illnesses. Instead, they also reflect factors such as provincial-territorial approaches to the management of care, health practitioner availability and accessibility in provinces and territories, and provincial demographics.

Respiratory illness accounted for the greatest proportion of hospital admissions for children aged 1 to 4 years (41%). Illnesses of the digestive system accounted for another 10% of admissions. Hospital admissions are often recurrent and the result of chronic conditions such as asthma or neurological conditions. As a result, a small number of children may account for a large number of hospital admissions. Injury/poisoning accounts for 9% of hospitalizations.

3 - 25

Hospitalization* by Leading Causes, Children Aged 1-4 Years

Canada, 1996-1997

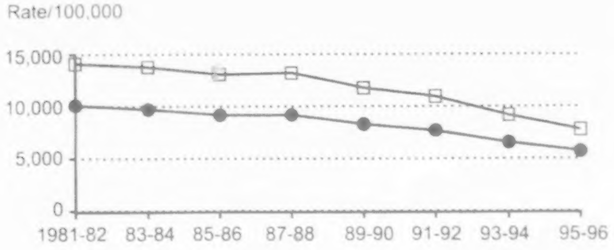


* Acute care hospitalizations only.
** Includes poisonings and self-inflicted injuries.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

3 - 26

Hospitalization Rates, Children Aged 1-4 Years

Canada, Provinces and Territories, 1981-1982 to 1995-1996



Male	□	14,133	13,825	13,094	13,223	11,785	10,974	9,214	7,793
Female	●	10,122	9,739	9,194	9,194	8,312	7,716	6,593	5,726

Note: Includes general and allied special hospitals (e.g. acute, chronic care and rehabilitation).

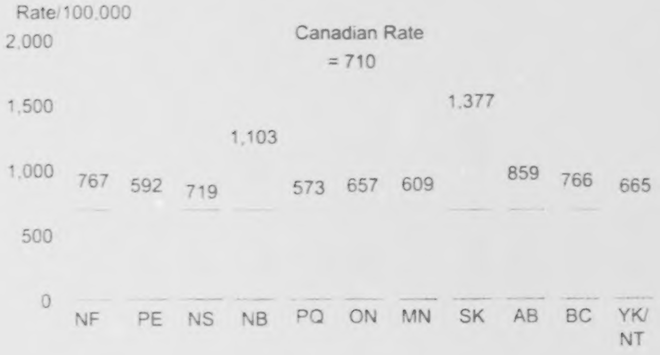
Source: Hanvey, L. et al. 1994. *The Health of Canada's Children: A CICH Profile, 2nd Edition.* CICH using Canadian Institute for Health Information data and Statistics Canada Census data. Statistics Canada. Summary statistics (see full citation in references).

Hospitalization rates decreased for male and female children aged 1 to 4 years, most notably between 1987-88 and 1995-96. This trend towards a lower rate of hospitalization reflects, in part, changes in the health care delivery system.

Injury hospitalization rates were highest in Saskatchewan and New Brunswick. All other provinces and territories had a relatively similar rate of hospitalization. The higher rate in Saskatchewan may reflect, in part, the relatively large Aboriginal population. Aboriginal children are at increased risk of injury compared with non-Aboriginal children. According to the Saskatchewan Institute on Prevention of Handicaps (1996), the rates of injury-related hospitalization for Treaty-Indian children were higher than the rates for children in Saskatchewan as a whole.

3

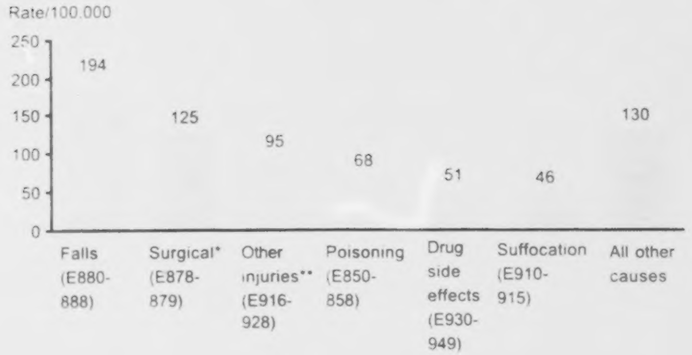
Injury Hospitalization Rates, Children Aged 1-4 Years
Canada, Provinces and Territories, 1996



Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

3-28

Injury Hospitalization Rates by Leading Cause, Children Aged 1-4 Years
Canada, 1996-1997



Note: E-codes from the International Classification of Diseases, 1975 Revision, Volume 1.

* Includes medical procedures as the cause of abnormal reaction of patient or later complication, without mention of misadventure at the time of procedure.

** The word Injuries has been subsituted for the word Accidents.

Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

The greatest single cause of injury hospitalization for preschool children was falls (194/100,000). Age-appropriate supervision and the modification of living spaces to reflect the safety needs of young children are important strategies for injury prevention.

97

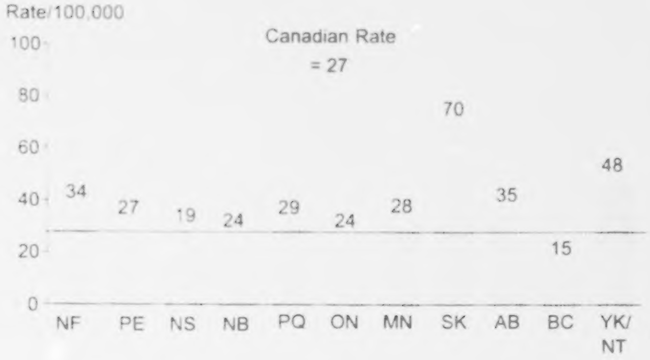
Death

3-29

In 1995, in Canada, the death rate for children aged 1 to 4 years was 27 per 100,000. There was considerable provincial and territorial variation in the death rates for preschoolers. The highest rates were found in Saskatchewan and the Territories.

Death Rates All Causes, Children Aged 1-4 Years

Canada, Provinces and Territories, 1995

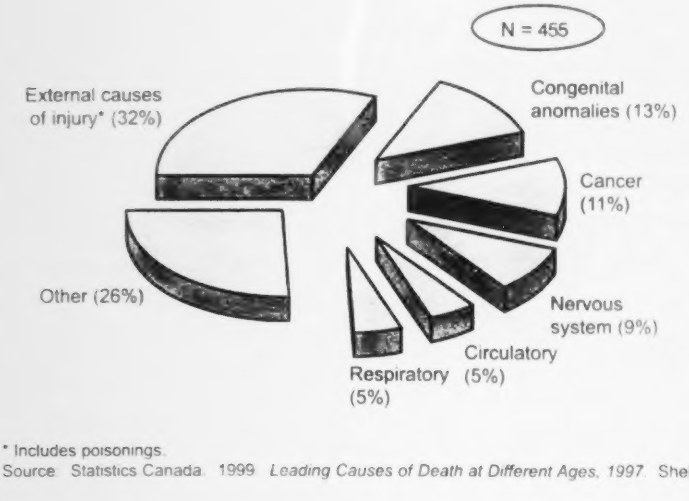


Source: CICH using data from Statistics Canada. 1997. *Births and Deaths, 1995.*

3-30

Leading Causes of Death, Children Aged 1-4 Years

Canada, 1997



* Includes poisonings.

Source: Statistics Canada. 1999. *Leading Causes of Death at Different Ages, 1997.* Shelf Tables.

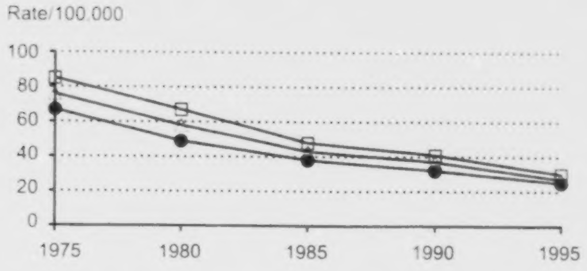
Injury and poisoning were the greatest single cause of death for preschool children in 1997, accounting for 32% of deaths. In other words, many deaths during the preschool years may have resulted from predictable, preventable events. Birth defects and cancer were also important causes.

There has been a steady drop in the death rate for both male and female children aged 1 to 4 years. In fact, the death rate that had seemed to be leveling off between 1985 and 1990, fell significantly by 1995. In 1990, the death rate for preschool males was 41 per 100,000. In 1995, this figure dropped to 30 per 100,000. For preschool females, the death rate was 32 per 100,000 in 1990 and 25 per 100,000 in 1995.

3-31

Death Rates All Causes, Children Aged 1-4 Years

Canada, 1975, 1980, 1985, 1990 and 1995



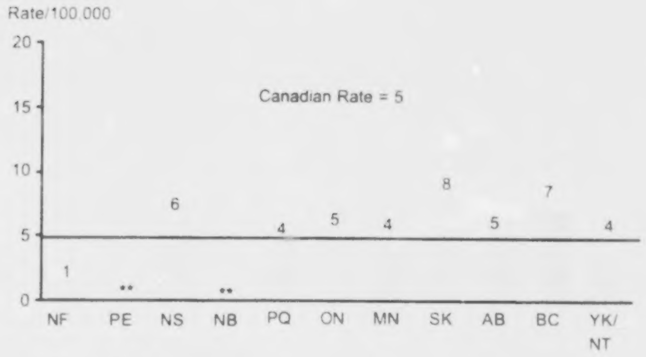
	1975	1980	1985	1990	1995
Male □	85	67	48	41	30
Both △	76	58	43	37	27
Female ●	67	49	38	32	25

Source: CICH using Statistics Canada, 1997, *Births and Deaths, 1995*

3-32

Injury Death* Rates, Children Aged 1-4 Years

Canada, Provinces and Territories, 1994-1996 (3-Year Rate)



* Deaths occurring in hospital only.

** Numbers too small to report.

Note: Due to small number of deaths in this age group, the rate has been calculated based on deaths over a three year period.

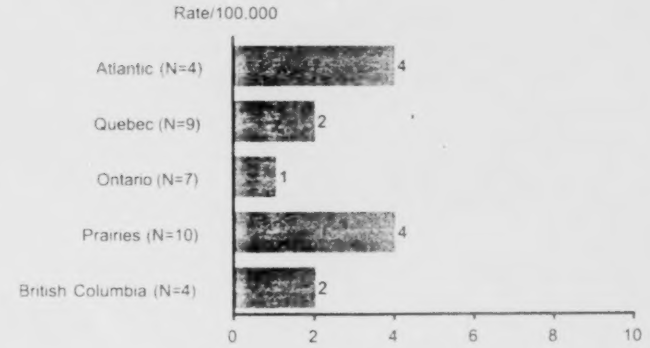
Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data

Injury death rates were highest in Saskatchewan, British Columbia and Nova Scotia and lowest in Prince Edward Island and New Brunswick. The higher injury death rate in Saskatchewan may be attributable, in part, to the higher injury rate experienced by Aboriginal populations (Saskatchewan Institute on Prevention of Handicaps, 1996).

In 1996, across Canada, excluding the Territories, 34 preschoolers drowned. This tragic and unnecessary loss of life demonstrates the need to isolate key causes of death and devise cause-specific strategies for prevention. The risk factors for preschool drowning are well established and in most, if not all, cases, the deaths were potentially preventable events.

3 - 33

Rate of Drownings, Children Aged 1-4 Years
By Region, 1996

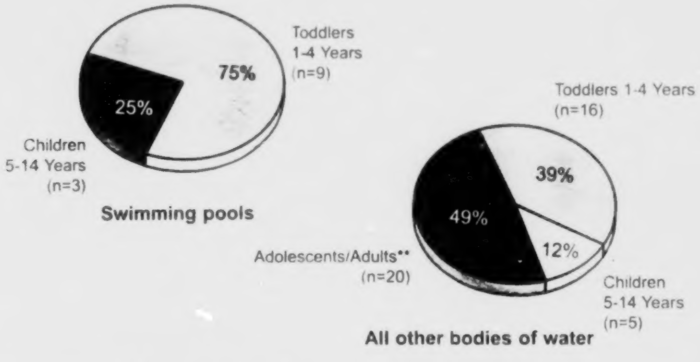


Note: Land and air transport drownings are not included.

Source: The Canadian Red Cross Society. 1998. *Canadian Surveillance System for Water-related Fatalities: An Analysis of Drownings and Other Water-related Injury Fatalities in Canada for 1996.*

3 - 34

Drownings From Falls Into Swimming Pools and All Other Bodies of Water During Non-Aquatic Recreational* Activities by Age of Victims
Canada, 1996



*Children's activities include playing and walking
**15 years of age and older
Source: The Canadian Red Cross Society. 1998. *Canadian Surveillance System for Water-related Fatalities: An Analysis of Drownings and Other Water-related Injury Fatalities in Canada for 1996.*

Most preschoolers drown in single unit home swimming pools. Appropriate safety precautions, such as fences with locked gates around pools and water alarms, are essential to the prevention of drowning. Creating safe environments that are developmentally appropriate for preschoolers is essential as this age group engages in a great deal of exploratory play.

Promoting the Health and Well-being of Canadian Preschoolers: Challenges for the New Millennium

by Dr. Ray DeV. Peters

The evidence concerning the physical health, injuries, hospitalizations and death rates for children in Canada presented in this chapter indicates that the general quality of preschoolers' health is quite good and improving. Particularly encouraging is the consistent decline in preschooler death rates for all causes, injury death rates, and injury hospitalization rates over the past two decades. These steadily declining rates indicate that injury prevention efforts directed toward young children are working. There are, however, several remaining challenges to the health and well-being of Canadian toddlers that require urgent attention in the new millennium.

Ten to 20% of all Canadian children are not vaccinated by the age of 3, depending on the type of vaccination. This means that 40,000 to 80,000 toddlers are still not adequately protected against major debilitating illnesses.

The asthma rate is high, affecting 8% of toddlers. Also, respiratory problems are the leading cause of hospitalization for toddlers.

In 1994, 20 to 25% of four-year-olds in Canada showed one or more serious emotional, behavioural or learning difficulties according to figures from the first wave of the National Longitudinal Survey of Children and Youth (NLSCY). Future NLSCY reports will increase the accuracy of these prevalence estimates, but 20% represents 80,000 four year olds in Canada. This is nearly three times higher than the prevalence rate for asthma.

Why do these challenges to the health and well-being of preschoolers exist? Receiving adequate stimulation, nurturance, protection and structure from parents and other adults is critical for children to successfully adapt to the developmental tasks during the preschool years. At the same time, many parents find it difficult to provide adequate support, emotionally and physically, due to competing demands on time and energy for parents employed outside the home or lack of personal and financial supports for many single parents.

Despite the importance of this period for healthy child development, it is also a time when a limited number of social programs are available to support children and their parents. Why this contradiction? One important reason is that there is no easy way to contact and communicate with parents of preschool children. This is unlike the situation for newborns and infants when pregnant and new mothers are often highly motivated to seek out health professionals for information and support programs, or immediately after the preschool years when universally accessible public school systems increasingly offer pre-kindergarten or kindergarten programs for many children in Canada.

Of those few programs that do exist for preschoolers and their parents, most are restricted to high-risk groups and such programs reach only a small percentage of high-risk children. A good example is the Community Action Program for Children (CAPC). Based on figures presented in this chapter, CAPC is reaching 28,765 families across Canada. The focus of CAPC is to support the development of high-risk children between birth and 6 years of age. There are approximately

2.4 million children in Canada between the ages of birth and 6. If 20% of these children are considered high risk, there are 480,000 high-risk children in the CAPC age range. This means that CAPC is currently able to reach only 6% of high-risk Canadian children/families.

High risk is often defined in terms of socioeconomic disadvantage or poverty. Despite the unconscionably high child/family poverty rate in Canada, it is becoming increasingly acknowledged that poor children account for a relatively small percentage of all children who show serious mental health and learning problems. In fact, most problematic children come from working and middle class families. This means that social programs for fostering health and well-being in young children should be universal, that is accessible by all young children and their families, not just those who are poor.

A major challenge for the new millennium is to establish social policies and universal programs that will provide all young children in Canada with the opportunities and experiences to optimize their health, development and well-being. This may be the major challenge facing federal, provincial and territorial governments in their work to implement a National Children's Agenda in the year 2000 and beyond.

What Can Be Done?

Several social policy initiatives designed to improve the lives of children from prenatal to two years of age and also throughout the school years are being implemented or considered by provincial, territorial and federal governments. These are described elsewhere in this report.

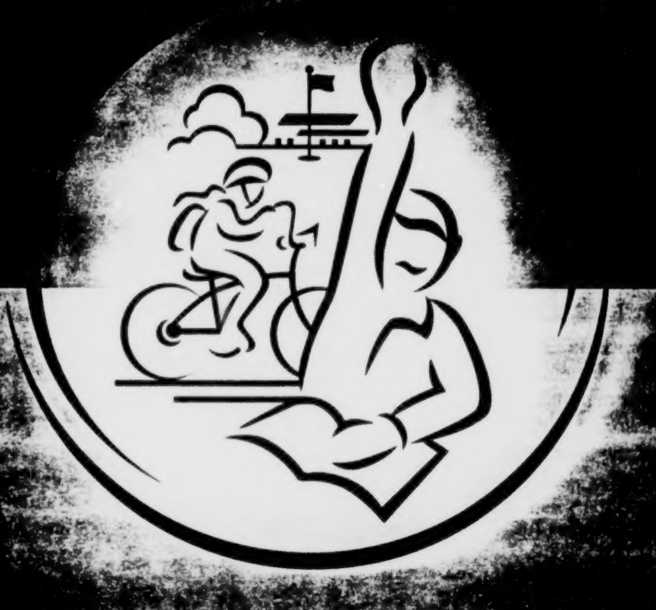
For preschool children specifically, a set of universal programs is required which provide good quality and affordable childcare opportunities and options for all parents of preschool children. These options include subsidized child care and development programs, which are responsive to parents' and children's needs in terms of working hours, parental relief and special Head Start-type programs. Added tax benefits for providing in-home childcare may be another option.

A major challenge is for Canadians to understand the value of providing a range of options which support parents in fostering the health and well-being of all preschool children.

Dr. Ray DeV. Peters is a Professor of Psychology at Queen's University. He has been involved in the field of child development and children's mental health for over 25 years. His major research interests concern the promotion of children's well-being and the prevention of children's mental health problems. As Research Director for the Better Beginnings, Better Futures Project, he heads a multi-disciplinary team from six Ontario Universities, and local research teams in 11 disadvantaged neighbourhoods across Ontario. Dr. Peters has been a Visiting Scientist at the Mental Health Division of the World Health Organization in Geneva, and the Social Learning Center in Eugene, Oregon.

Chapter 4

School Age



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During the school years, defined in this chapter as 5 to 14 years of age, children learn important life skills, such as problem-solving and decision-making, while experiencing rapid physical, psychological, emotional and intellectual development. The National Longitudinal Survey of Children and Youth and the Health Behaviours of School-Age Children Survey provide unique information on the healthy development and daily lives of school age children, respectively. However, the range of factors influencing the mental health and well-being of school age children is little understood. Information about the use of mental health, special education and social services is difficult to obtain as these services are often administered through the school system. There remains an urgent need to standardize and operationalize his information.

> ***“A lot of us are eating right, playing sports, and having clean fun. We are aware of what is going on around us.”***
>
> **Jackie, aged 14 years, Alberta.**

How well do school age children get along with their parents and siblings?

According to the 1994-95 National Longitudinal Survey of Children and Youth, the majority of children seem to get along well with their siblings. Research into the sibling relationships of youth is needed to determine how these relationships progress over time. According to the 1998 Health Behaviours of School Age Children survey, most children in grades 6, 8 and 10 were comfortable talking to their mother about things that mattered to them. While boys also found it easy to talk to their father, only one in three girls in grade 10 found it easy. Affirmation by fathers benefits girls' self-esteem.

Are school age children doing well at school?

Although the majority of children in Canada are succeeding at school, girls are more likely than boys to be doing “very well” at reading and writing. A small but worrisome percentage of children in elementary school repeat a grade. Boys are more likely than girls to repeat a grade. Research is needed to better understand these gender differences in learning outcomes.

One contributing factor may be that boys are more likely to be diagnosed with hyperactivity, attention deficit disorder and attention deficit hyperactivity disorder, conditions that often result in difficulty working within the school environment. Early identification and intervention are essential when there are learning problems. Ritalin, which is widely and often effectively used to reduce educational and peer problems, does not eliminate the need for responsive, flexible modes of teaching that respect the different learning styles of children.

Are they practicing healthy behaviours?

Regular exercise and good nutrition contribute to physical and mental well-being. According to the 1998 Health Behaviours of School-Age Children survey, eating habits worsen as children progress through the grades. Children in grade 6 were more likely than children in grade 10 to eat breakfast and to eat fruit and vegetables on a daily basis, whereas children in grade 10 were more likely than children in grade 6 to eat chips and drink soda pop on a regular basis. Gender is also a factor. Girls were less likely than boys to eat breakfast but somewhat more likely to eat fruit and vegetables. Boys tend to exercise more than girls.

There was, however, a troubling decline in the level of exercise for both boys and girls between 1990 and 1998. Research is needed to learn more about actual weights and levels of fitness of school-age children.

Certain risky behaviours, such a sexual activity, smoking and drug use, emerge as problems during the school age years. Despite programs aimed at delaying the onset of sexual activity, rates of adolescent sexual activity remain high. Early sexual activity is often "unprotected" and adolescents run the risk of pregnancy and sexually transmitted diseases. Despite public health efforts, many school age children use harmful drugs. Approximately as many young people smoke cannabis as smoke cigarettes, with significantly fewer using LSD or crack/cocaine.

Are school age children protected from injury?

Bicycle helmets and seatbelts offer substantial protection against injuries. Yet many children do not regularly make use of these safety devices. Only 58% of children age 12 years and younger regularly wore helmets while riding bicycles or tricycles in 1994-95. This figure drops even lower for youth. Less than one in five students in grade 10 regularly used bicycle helmets in 1998. Many jurisdictions across Canada have made the use of bicycle helmets mandatory. The use of seatbelts is legally required throughout Canada, yet many young people do not always wear one. Seatbelt use among students fell between 1990 and 1998. Sports injuries are common; research is needed to investigate the impact of coaching practices and the appropriate use of protective gear.

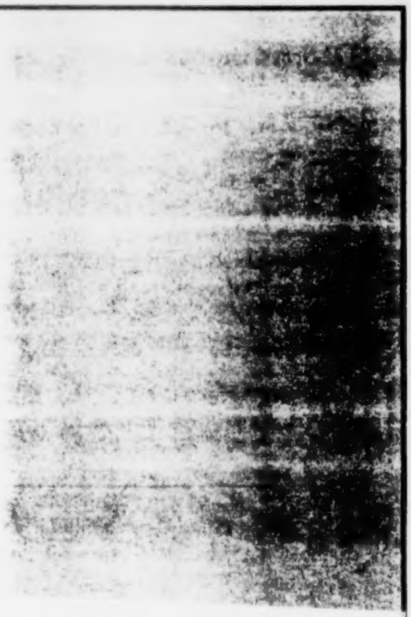
How are school age children spending their time?

Participation in social activities beyond school, including supervised and unsupervised sports, the arts and community programs, may contribute to overall psychosocial well-being and provides opportunities to develop new skills. Unfortunately, many children almost never participate in such activities. This finding raises concerns about the availability and accessibility of recreation programs for many children. The fee structure of various programs limits participation.The busy schedules of many parents may also interfere with participation.

The busy schedules and long work hours of many parents raise concerns for the unknown number of children who are at home alone, unsupervised by an adult, in the hours immediately following school. These children are often at home alone because their parents are unable to find, or unable to afford, after-school care.

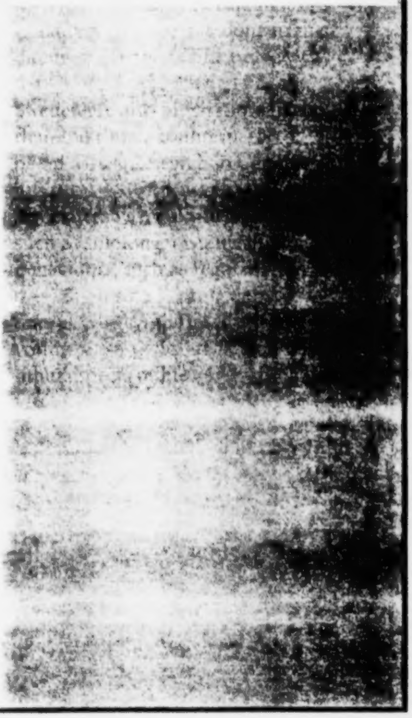
Is gender a significant determinant of health for school age children?

By this age, gender differences in perception, behaviour and habits have clearly emerged. Gender affects interactions with parents, school performance, body image, health behaviours, relationships with peers and other aspects of children's lives. Building resilience during the school years can make important contributions to long-term well-being.



"Sex is becoming a bigger thing."

Merritt, aged 14 years, Alberta.



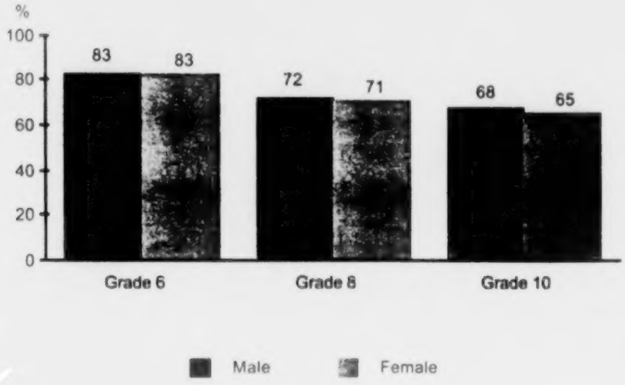
Determinants of Health

Parenting and Family Life

Numerous studies have demonstrated that having a positive, open relationship with at least one caring adult is an important contributing factor to resiliency. As such, a healthy mother-child relationship supports a wide range of positive health and well-being outcomes. According to King et al (1999), most youth in school, female and male, found it easy to talk with their mother about things that bothered them, although students in grade 6 were somewhat more likely to than students in grade 8 or 10.

4 - 1

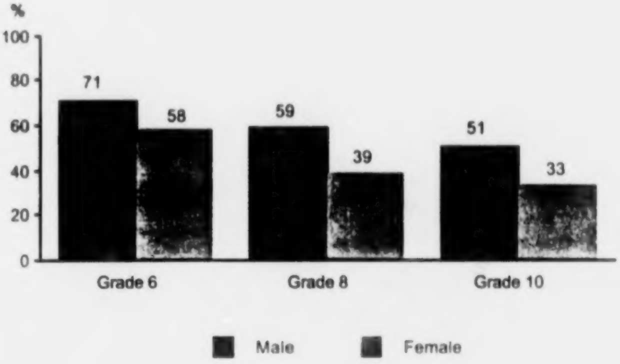
Students in Grades 6, 8 and 10 Who Found it "Easy" or "Very Easy" to Talk to Their Mother About Things That Really Bother Them
Canada, 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

4 - 2

Students in Grades 6, 8 and 10 Who Found it "Easy" or "Very Easy" to Talk to Their Father About Things That Really Bother Them
Canada, 1998



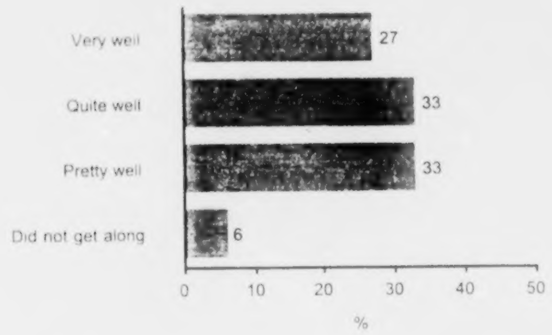
Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

Fathers are important contributors to the healthy development of their children. One emerging area of concern is the relationship between fathers and daughters and its impact on self-esteem. Researchers have found a strong connection between "fatherly affirmation" and girls' positive self-esteem (Scheffler et al, 1999). According to King et al (1999), communication between girls and fathers was quite low. 33% of grade 10 girls, compared with 51% of grade 10 boys, reported finding it easy to talk to their fathers about things that really bother them.

A positive relationship with siblings can be a protective factor in terms of child well-being. According to the 1994-95 National Longitudinal Survey of Children and Youth (NLSCY), the majority of elementary school children seem to get along well with their siblings. When siblings do not get along, it is important to discriminate between minor interpersonal difficulties and more serious problems, such as sibling abuse. Currently, there is a dearth of information on sibling relationships during the years after elementary school.

4

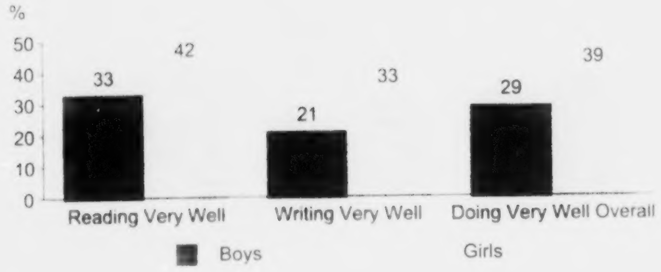
Percentage of 4-11 Year Olds Who Get Along with Siblings
Canada, 1994-1995



Source: Ross, D.P. et al. 1996. *Overview: Children in Canada in the 1990s.* In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada.* NLSCY.

4 - 8

Gender Differences in Learning and Literacy Outcomes Among Children Aged 4-11 Years
Canada, 1994-1995



Source: Caputo, V. and Kelly, K. 1998. *Gender and Health: Growing Up Male and Female in Canada.* Workshop Paper for "Investing in Children: A National Research Conference, 1998".

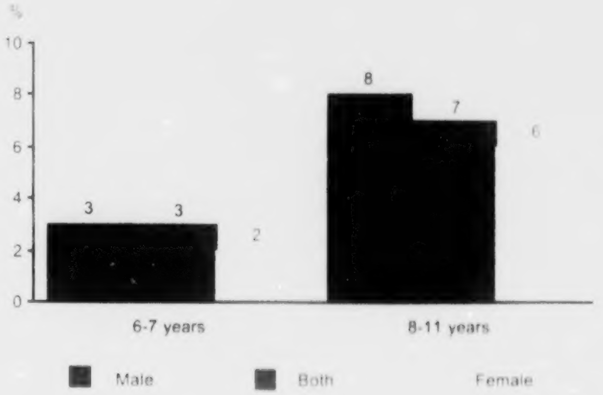
Education

According to the NLSCY, although the majority of children are succeeding at school, girls are more likely than boys to be doing very well. In 1994-95, only 29% of boys aged 4-11 years were doing very well overall compared with 39% of girls aged 4-11 years. Girls (42%) were more likely than boys (33%) to be reading very well and more likely to be writing very well (33% compared with 21%). Research is needed to identify the reasons behind these gender differences among school age children.

According to the 1994-95 NLSCY, a worrisome proportion of elementary students in Canada had repeated a grade. 3% of children aged 6 to 7 years and 7% of children aged 8 to 11 years had repeated a grade. Among children aged 8-11 years, boys were slightly more likely to repeat a grade (8%) than girls (6%). Studies indicate that repeating a grade can threaten children's self-esteem and undermine their future academic success. Early identification and intervention are key in the case of learning problems. Numerous studies have shown that boys are also more likely to be diagnosed with learning problems such as attention deficit disorder and/or hyperactivity. These disorders can negatively impact on educational success.

4 - 5

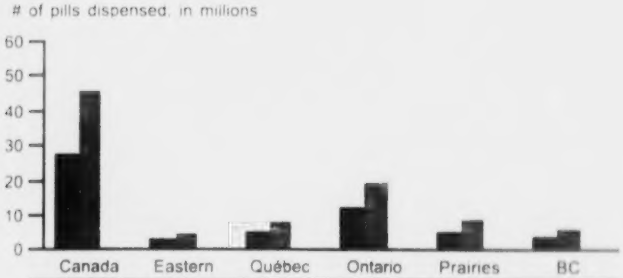
Frequency of Repeating a Grade, by Age and Gender
Canada, 1994-1995



Source: Offord, D.R., Lipman, E.L. 1996. *Emotional and Behavioural Problems*. In Human Resources Development Canada and Statistics Canada. *Growing Up in Canada*. NLSCY.

4 - 6

Number of Ritalin* Pills Dispensed in Canadian Retail Pharmacies
Canada, 1994, 1996 and 1998



	Canada	Eastern	Québec	Ontario	Prairies	BC
1994 ■	26.8	2.5	4.5	11.8	5.0	3.1
1996 ▨	45.4	4.2	7.8	19.0	8.3	6.0
1998	56.2	5.1	11.4	23.2	10.7	5.8

* Ritalin = Methylphenidate
Source: IMS HEALTH, CompuScript 1999.

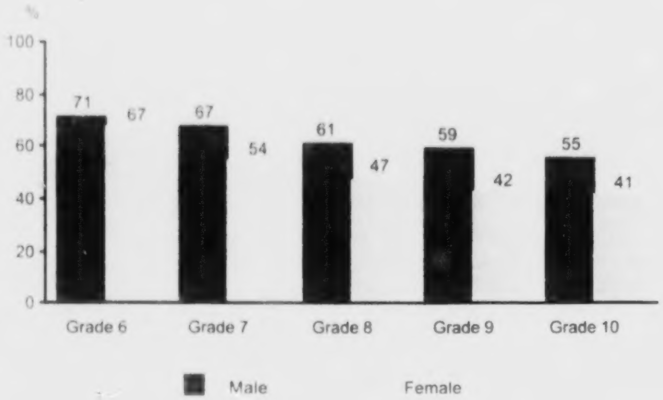
Children with hyperactivity, attention deficit disorder or attention deficit hyperactivity disorder often experience difficulty working within the school environment and may have difficulty getting along with peers. Ritalin is the medication most commonly administered to children diagnosed with these conditions. According to IMS HEALTH, the number of Ritalin pills dispensed in Canada more than doubled between 1994 and 1998. Although there are growing concerns about the large numbers of school children receiving Ritalin, numerous studies have found it effective in reducing school learning and peer problems for many children. Ritalin does not, however, eliminate the need for responsive, flexible teaching skills that respect the different learning styles of children.

Healthy Habits

Breakfast "prepares the body and mind for daily activities" (Williams, 1995). According to King et al (1999), both gender and age influence the likelihood of eating breakfast. Boys were more likely than girls to eat breakfast and younger youth were more likely to than older youth. The gap between the proportion of boys and girls who ate breakfast widened with age. The lower proportion of girls eating breakfast may reflect dieting strategies. If so, educating girls about healthy eating habits is crucial.

4 - 7

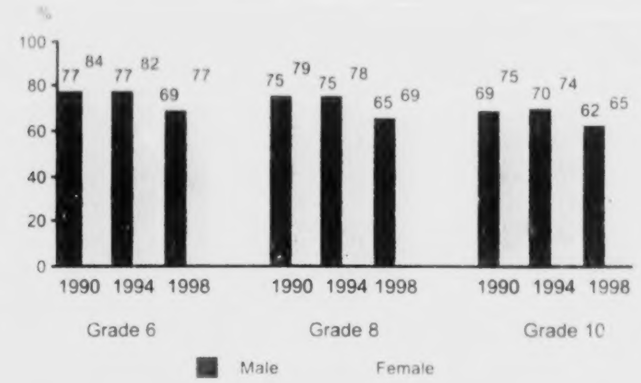
Students in Grades 6 Through 10 Who Ate Breakfast* Daily
Canada, 1998



* Breakfast includes at least juice and toast or cereal.
Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth*

4 - 8

Students in Grades 6, 8 and 10, Who Ate Fruit Daily
Canada, 1990, 1994 and 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth*

According to King et al (1999), girls were slightly more likely than boys to be daily consumers of fruit. Younger youth were slightly more likely than older youth to eat fruit daily. Further, the proportion of boys and girls who ate fruit daily declined slightly between 1994 and 1998 for boys and girls in all three grades. The Canadian Food Guide recommends 5-10 servings of fruit daily to maintain good health. Young people need information about the importance of washing fruit to reduce any pesticide residue prior to consumption.

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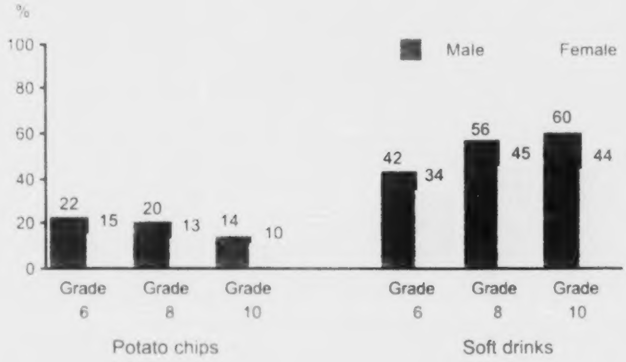
A well-balanced, healthy diet is an important component of overall wellness. According to King et al (1999), boys were more likely than girls to eat potato chips and drink soft drinks on a daily basis. Daily consumption of soft drinks increased with age, although grade 8 and grade 10 girls reported comparable consumption. Regular consumption of potato chips decreased with age for both boys and girls. High fat foods with little nutritional value can contribute to health problems such as obesity. Also, these drinks and foods may be consumed instead of more nutritious foods. School cafeterias offering junk foods can contribute to these unhealthy habits.

4 - 9

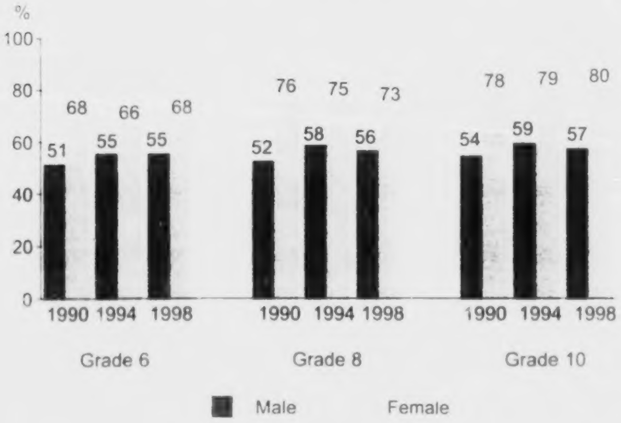
Students in Grades 6, 8 and 10, Who Ate Potato Chips and Consumed Soft Drinks Daily
Canada, 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

4 - 10

Students in Grades 6, 8 and 10, Who Brushed Their Teeth Two or More Times a Day
Canada, 1990, 1994 and 1998



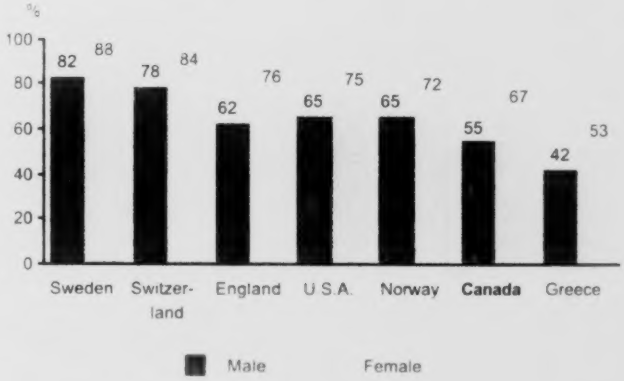
Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

Good dental hygiene is important both for health and social reasons. Dental caries and gum disease can contribute to other health problems, such as heart disease. According to King et al (1999), girls were much more likely than boys to brush their teeth two or more times daily. Female students in grades 8 and 10 were more likely than female students in grade 6 to practice good dental hygiene. The percentage of male students brushing two or more times daily did not vary significantly between grades.

According to King et al (1999), Canadian youth were less likely to brush their teeth at least twice a day than youth in many other developed countries, including England and the United States. Thus, Canada has lessons to learn from other countries in terms of promoting good dental hygiene among young people.

4 - 1

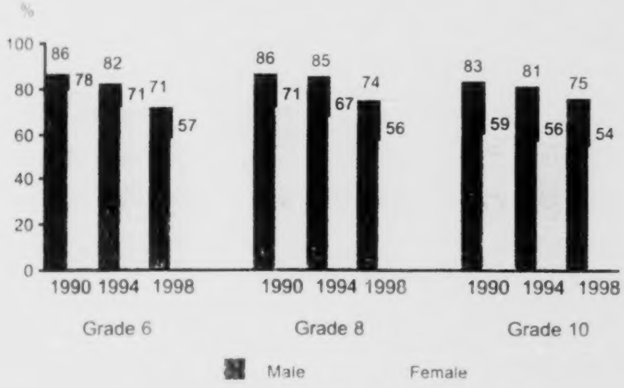
Eleven Year Olds Who Brushed Their Teeth Two or More Times a Day by Country
1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

4 - 2

Students in Grades 6, 8 and 10, Who Exercised* Two or More Times a Week Outside School Hours
Canada, 1990, 1994 and 1998



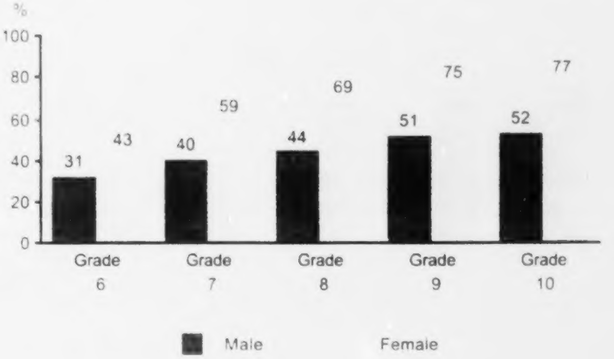
* Students were asked how often they exercise until they are out of breath, or are sweating, during their free time or outside of school hours.
Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

Exercise frequency is an important health indicator as regular exercise promotes physical and psychological health. King et al (1999) found that exercise is positively correlated with feeling healthy, having a healthy diet and having positive peer relationships. Gender more than age appears to be an important factor influencing young people's exercise habits. Female students reported exercising less often than male students. Further, female students in 1998 exercised less often than their female peers in 1990. Although male students exercised more than female students, there was also a consistent decline in their exercise frequency from 1990 to 1998.

There was a steady increase across the grades in the proportion of students who reported that they would like to change something about their body. By grades 9 and 10, fully half of male students and three quarters of female students indicated dissatisfaction with their body. These data support the view that body image concerns are currently normative in the early high school years. For some students, concerns about body image may interfere with health and well-being or be indicative of other problems.

4 - 13

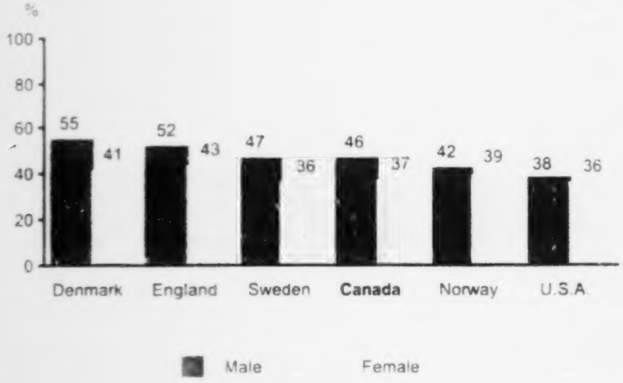
Students in Grades 6 Through 10 Who Responded Yes to the Question "Is There Anything About Your Body You Would Like to Change?"
Canada, 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

4 - 14

Children Age 13 Years Who Felt Their Body is About the Right Size
Canada and International, 1998



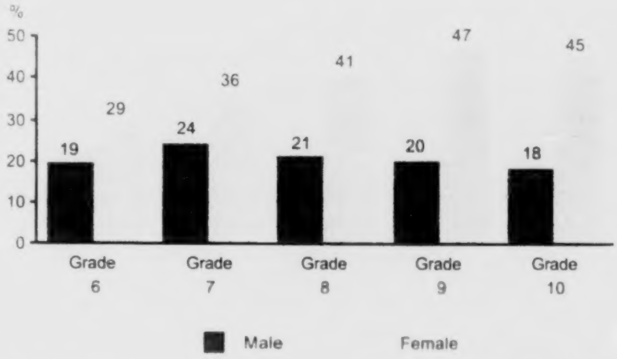
Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

According to King et al (1999), although females reported more dissatisfaction with their body size than males, the gender differences were minimal in some countries (such as the United States and Norway). In Canada, female students reported more dissatisfaction than their male counterparts. Studies in Canada and the U.S. indicate that females are generally interested in losing weight, but males are often interested in gaining weight.

Girls were far more likely than boys to be preoccupied with losing weight and this preoccupation increased over the early and mid-teen years. Nearly half the girls in grade 9 and 10 were either on a diet or felt that they needed to lose weight. When the focus is on healthy food choices and exercise, dieting can be healthy. However, teenage girls are vulnerable to eating disorders such as anorexia and bulimia, which can have serious health consequences. It is worth noting that one-fifth of the boys expressed dissatisfaction with their body weight. Research suggests that many of the boys, unlike the girls, would be interested in increasing their body mass.

4 - 15

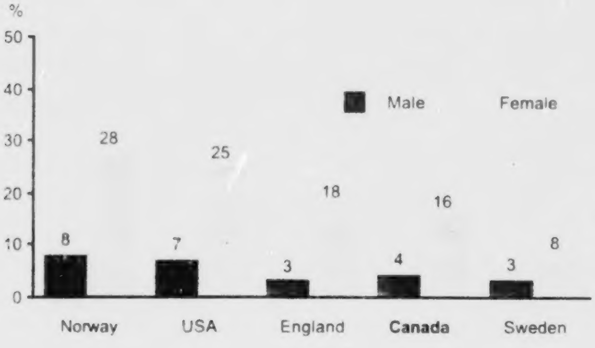
Students in Grades 6, 8 and 10 Who Were on a Diet or Felt They Needed to Lose Weight
Canada, 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

4 - 16

Fifteen Year Olds Who Were on a Diet, by Gender
Canada and International, 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

International data indicate that Canadian girls are not alone in their dieting behaviour. Girls in Norway, the United States, England and Sweden are also much more likely than their male counterparts to be on a diet. Research in Canada indicates that dieting may be associated with risky behaviours, such as smoking, or unhealthy behaviours, such as regularly skipping meals. Dieting behaviour may also be symptomatic of a young person's dissatisfaction with other aspects of life.

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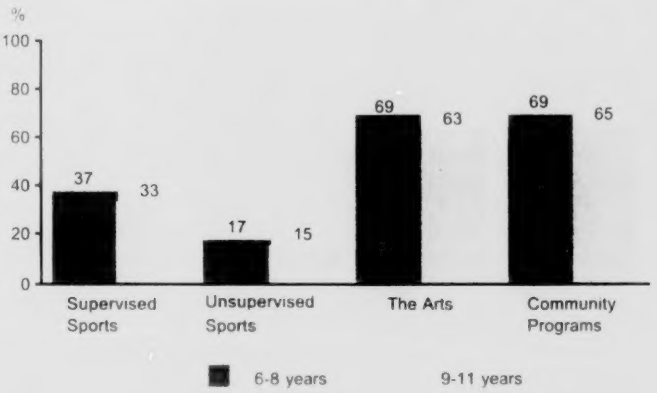
Participation in sports, recreation and the arts may contribute to the resiliency of children and protect against psychosocial problems. Offord et al (1998) found that the majority of children 6-11 years of age indicated that they "almost never" participated in the arts and community programs. A significant minority (approximately 1/3), indicated that they "almost never" participated in supervised sports. These findings suggest that significant populations of children are inadequately served by recreational programs: programs may be unavailable in some communities; available programs may have limited registration; or families may be unable to afford registration costs. Other factors, such as fluency in an official language, family values or the presence of a disability, may limit participation.

4 - 17

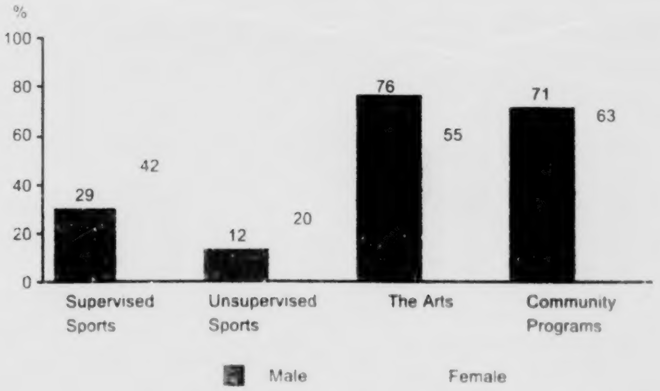
Rate of "Almost Never" Participating in Sports, the Arts and Community Programs in the Last Twelve Months, by Age
Canada, 1994-1995



Source: Offord, D.R. et al. 1998. *Sports, the Arts and Community Programs: Rates and Correlates of Participation.* Workshop Paper for: "Investing in Children: A National Research Conference, 1998."

4 - 18

Rate of "Almost Never" Participating in Sports, the Arts and Community Programs in the Last Twelve Months, by Gender
Canada, 1994-1995



Source: Offord, D.R. et al. 1998. *Sports, the Arts and Community Programs: Rates and Correlates of Participation.* Workshop Paper for: "Investing in Children: A National Research Conference, 1998."

There are substantial gender differences in participation. On the one hand, girls were more likely to indicate that they "almost never" participated in supervised or unsupervised sports. This may reflect a prevailing cultural bias: girls are expected to be less interested than boys in vigorous physical activity and sports (Tipper, 1997). On the other hand, boys were more likely to report that they "almost never" participated in the arts or community programs. This may also reflect cultural gender biases. These gender differences are a matter of serious concern. Participation in a wide range of activities enriches the lives of children, potentially strengthening their bodies, their minds and their ties to their community, making for holistic growth and development.

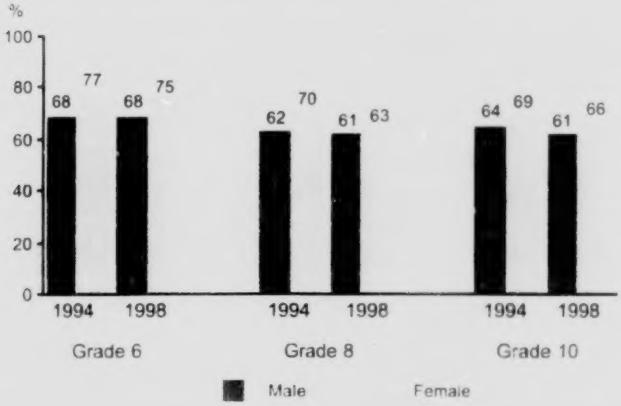
The Internet has altered the way children spend their leisure time. As the number of children who use the Internet steadily increases, more time is spent accessing web sites, chat rooms and E-mail. According to a 1998 study, 9.8 million American children used the Internet, and it is predicted that this number will increase by three times by the year 2002 (Sundin,1999). We anticipate a similar trend in Canada. However, despite the large numbers of children using the Internet, there is a dearth of national or provincial studies examining the link between Internet usage and children's health.

4 - 19

The Internet

4 - 20

Students in Grades 6, 8 and 10, Who "Always" Wore a Seatbelt When Riding in a Car or Truck
Canada, 1994 and 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

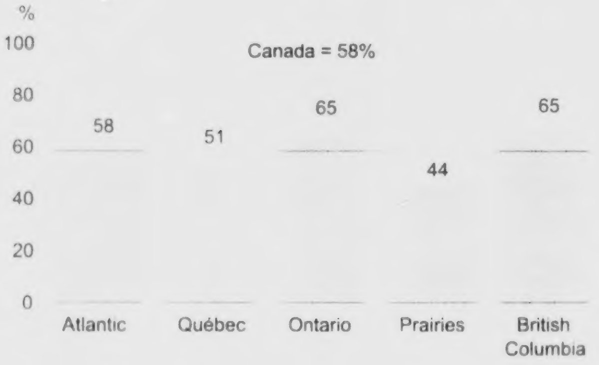
Safety

Seatbelt use is legally required in Canada, yet many young people do not "always" wear one while riding in a truck or car. According to King et al (1999), girls were somewhat more likely than boys in all grades to always wear seatbelts. Approximately 1/4 to 1/3 of the students did not "always" wear seatbelts. Between 1994 and 1998, the rate of seatbelt use reported by students in grades 6, 8 and 10 did not increase; rather, it dropped slightly. This finding is particularly worrisome as motor vehicle collisions are the leading cause of injury death among school age children.

Helmet use while bicycling substantially reduces the risk of head injury. In 1994-95, slightly more than one half of children 12 years of age and younger (58%) regularly wore helmets while riding bicycles or tricycles. There was considerable regional variation. This is not surprising given that helmet regulations vary by province. In Ontario and British Columbia, 65% of children aged 12 and younger regularly used helmets. In the Prairies, this figure dropped to 44%. Millar et al (1997) also noted that the rate of helmet use increased as the level of family income increased. For children under the age of 10 in Canada, the body part most often affected by unintentional injury is the brain/skull (Smartrisk, 1998). The importance of regular helmet use cannot be overstated. The Children's Safety Network (1996) determined that every $1 invested in bicycle helmets would save society $30 in future costs.

4 - 2 1

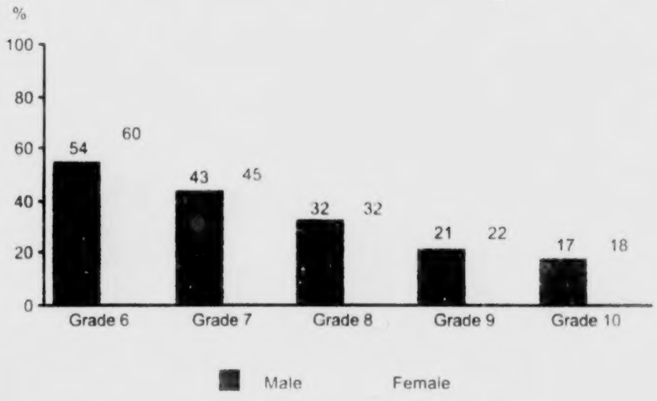
Helmet Use*, Children Aged 12 and Younger, by Region
Canada, 1994-1995



*Bicycle/tricycle users.
Source: Millar, J., and Pless, I.B. (Statistics Canada) 1997. Factors Associated With Bicycle Helmet Use. *Health Reports*. Vol. 9. No. 2.

4 - 2 2

Students in Grades 6 Through 10 Who "Often" or "Always" Wore a Bicycle Helmet
Canada, 1998



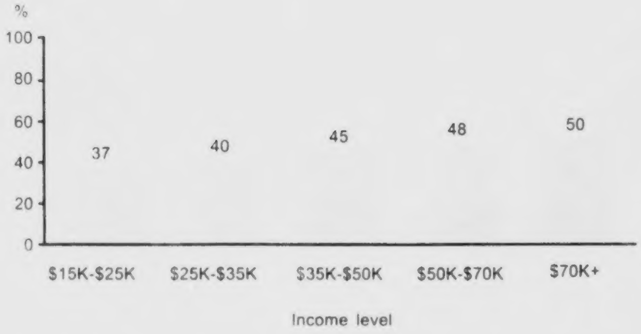
Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth*.

Youth in grades 6 and 7 are significantly more likely to use helmets regularly ("often" or "always") than youth in grades 8, 9 and 10. 54% of boys and 60% of girls in grade 6 were regular helmet users, whereas 17% of boys and 18% of girls in grade 10 were. This drastic decline in helmet use puts many youth at risk of serious head injury.

According to a report by Safe Kids Canada (1999), parents in higher income families were more likely than parents in lower income families to state that they would let their child cross the street alone. However, a substantial proportion of all parents agreed that they would. Studies show that children under the age of 9 years do not have the cognitive skills to make safe judgements about traffic, even after they have been taught clear rules. Peripheral vision is not fully developed. They are less able to judge the speed of vehicles, the distance between objects, and their own abilities. Importantly, children tend to underestimate the risks and consequences of collision (Safe Kids Canada, 1999). Public education is needed to inform parents and protect children.

4 - 23

Percentage of Parents Who Would Let Their Child, Under 9 Years of Age, Cross Streets Alone, by Income Level
Canada, 1996-1997



Source: Safe Kids Canada. 1999. *Results of the Focus Canada Survey Attitudes and Behaviours on Road Safety.*

4 - 24

Home Alone

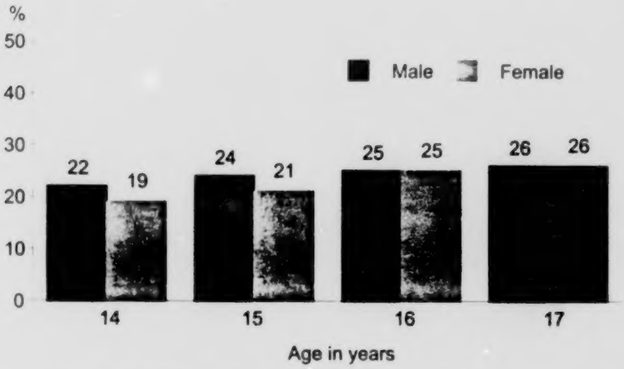
Children stay home alone because their working parents cannot find or cannot afford a regulated child care space, or cannot establish a stable informal care arrangement (Hunt, 1999). Sometimes older children are responsible for younger children. Clearly, children who care for themselves alone at home are at increased risk for injury, missing meals and other health and well-being problems. Parents are turning to school breakfast programs and courses that teach "home alone" skills to children to offset some of the risk (Hunt, 1999). These measures are important, given the current reality for many families. Far better would be the development of programs that fill the gap between the end of the school day and the end of the work day.

Social and Sexual Health

Despite a plethora of programs aimed at delaying the onset of sexual activity, rates of adolescent sexual intercourse remain high (Thomas et al, 1998). The age at first sexual intercourse is a risk factor for infection with a sexually transmitted disease and having or causing an unwanted pregnancy. Although some sexually transmitted diseases can be easily treated, others (such as HIV/AIDS) have serious and life-long consequences. Unwanted pregnancy, whether terminated or carried to term, has serious implications for the well-being of the adolescent. Early sexual activity correlates with other risk behaviours, such as alcohol consumption.

4 - 25

Incidence* of First Sexual Intercourse, by Age and Gender
Ontario, 1984-1989

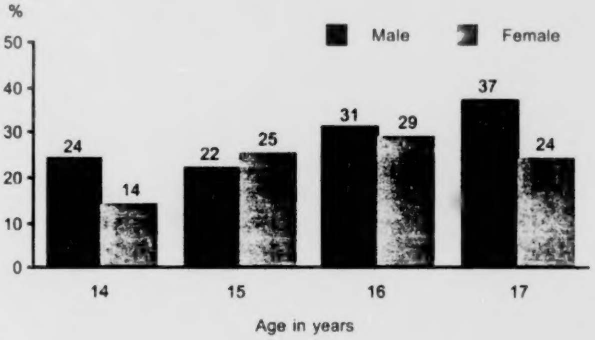


* number of students reporting first sexual intercourse / total number of students at that age in the study x100

Source: Thomas, B.H. et al. 1998. Adolescent Sexual Behaviour: Results from an Ontario Sample. Part 1: Adolescent Sexual Activity. *Canadian Journal of Public Health*. Vol. 89 No. 2.

4 - 26

Reported Rate of Condom Use Among Sexually Active Adolescents, by Age and Gender
Ontario, 1984-1989



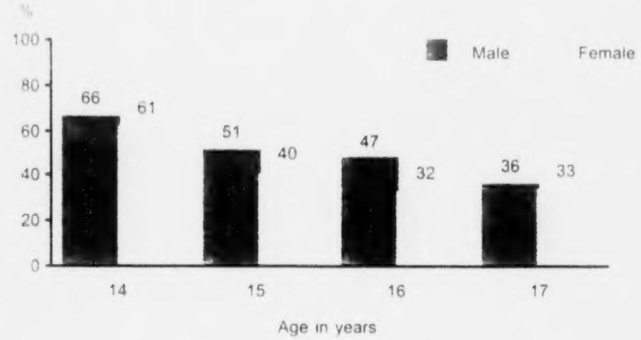
Source: Thomas, B.H. et al. 1998. Adolescent Sexual Behaviour: Results from an Ontario Sample. Part II: Adolescent Use of Protection. *Canadian Journal of Public Health*. Vol. 89 No. 2.

Research suggests that many sexually active adolescents engage in sexual intercourse without the protection of condoms, risking infection with a sexually transmitted disease. According to an Ontario survey, female adolescents reported particularly low rates of condom use. Some of these female adolescents may have been using birth control pills to avoid pregnancy, but this method would not reduce the risk of infection. Programs aimed at delaying sexual activity must also provide accurate, detailed information about the importance of condom use to avoid both pregnancy and disease. "People are as afraid to ask and buy birth control pills or condoms, as to ask for help and information about sex." Kathy, aged 16 years, Newfoundland.

According to an Ontario survey, a substantial proportion of sexually active adolescents used no method of protection during intercourse. Using no protection during intercourse substantially increases the risk of pregnancy and infection with a sexually transmitted disease. Adolescents may be less likely to use any protection if intercourse is unplanned or follows the consumption of alcohol. "For children who are having unprotected sex, I think they are too embarrassed to buy condoms or birth control pills and are too afraid to tell their parents they are sexually active because they are afraid of their parents' reactions." Melanie, aged 15 years, Newfoundland.

4

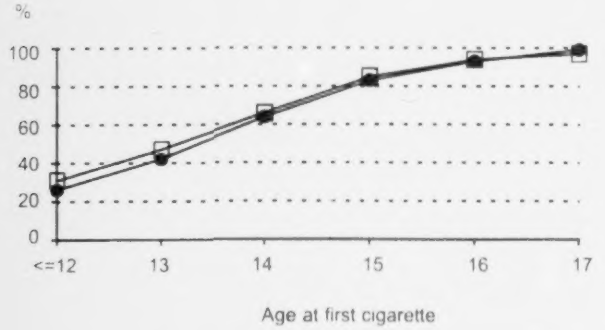
Reported Rate* of No Protection Among Sexually Active Adolescents, by Age and Gender
Ontario, 1984-1989



* Rate = (number reporting condom use/number reporting sexual intercourse) x 100
Source: Thomas, B.H. et al. 1998. Adolescent Sexual Behaviour: Results from an Ontario Sample. Part II: Adolescent Use of Protection. *Canadian Journal of Public Health*. Vol. 89 No. 2

4-28

Cumulative Age at Onset of Smoking* by Gender
Canada, 1994



Male	□	31	47	66	85	94	97
Female	●	26	42	64	83	93	99

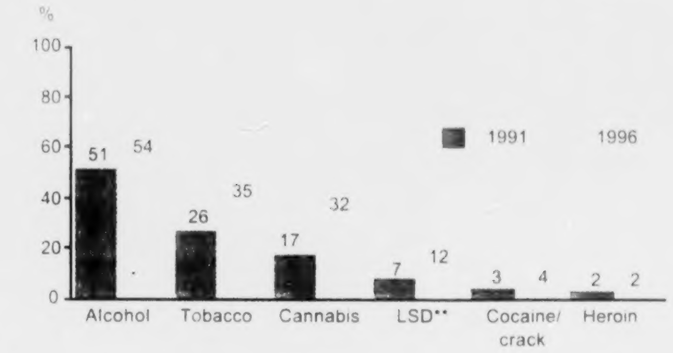
* Current smokers
Source: Health Canada. 1994. *Survey on Smoking in Canada. Cycle 1. Profile of Youth Aged 15-19*

Although teenagers are the highest risk group for smoking initiation, some children start smoking at even younger ages. The risk of starting to smoke is low but worrisome among children aged 12 years or less and increases steadily up to 17 years of age. According to a 1994 Canadian survey, a significant proportion of smokers began smoking when they were 12 years old or younger (31% of male and 26% of female current smokers). Youth who begin smoking in early adolescence are at greater risk of addiction than smokers who began later in life (Statistics Canada, 1998).Youth who choose to smoke are often surrounded by family and friends who are smokers (Heart and Stroke Foundation BC and Yukon, 1997). "Little kids even younger than me are smoking and drinking." Edward, aged 14 years, Newfoundland.

In both 1991 and 1996, the majority of students who reported drug use indicated that they had used alcohol, tobacco or cannabis. The reported use of these drugs among students increased between 1991 and 1996. Relatively fewer students reported using LSD, cocaine, crack or heroin, although reported use of LSD climbed from 7% to 12% between 1991 and 1996.

4-29

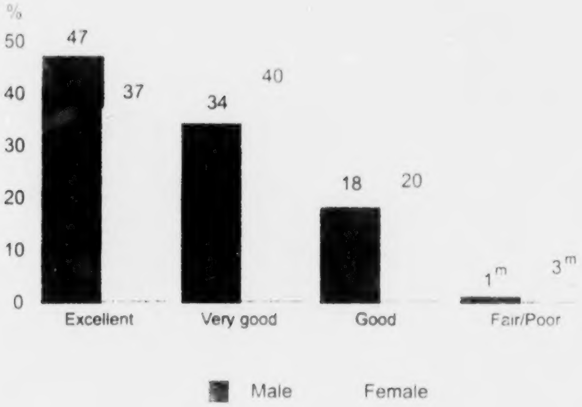
Drug Use* by Students in Grades 7, 9, 10 and 12
Nova Scotia, 1991 and 1996



* Reported in the 12 months before being surveyed.
** LSD = Lysergic Acid Diethylamide
Source: Poulin, C., Elliot, D. 1997. Alcohol, Tobacco and Cannabis Use Among Nova Scotia Adolescents: Implications for Prevention and Harm Reduction. *Canadian Medical Association Journal*. Vol 156 No 10

4-30

General Health, Children Aged 10-14 Years
Canada, 1996-1997



m= high sampling variability- interpret with caution.
Source: CICH using Statistics Canada, *National Population Health Survey, 1996-1997 Public Use Microdata Files.*

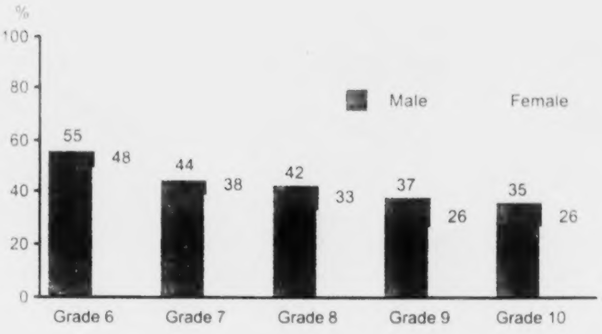
Health and Well-being Outcomes

According to the 1996-97 NPHS, the majority of young people, aged 10-14 years, were in "excellent" or "very good" general health (81% of males and 77% of females.) Of the remainder, most were reported to be in "good health". Very few were reported to be in "poor or fair" health. The health of the males was more likely to be rated "excellent" than the health of the girls.

Happiness (defined as a positive attitude towards self and life) and health are strongly associated. King et al (1999) found that the proportions of young people who felt very happy with their life declined steadily between grade 6 and grade 10. In grade 6, 55% of boys reported that they were very happy with their life, but this figure dropped to 35% in grade 10. In grade 6, 48% of girls reported feeling very happy with their life, but this figure dropped to 26% in grade 10. Overall, boys reported more happiness than girls.

4.21

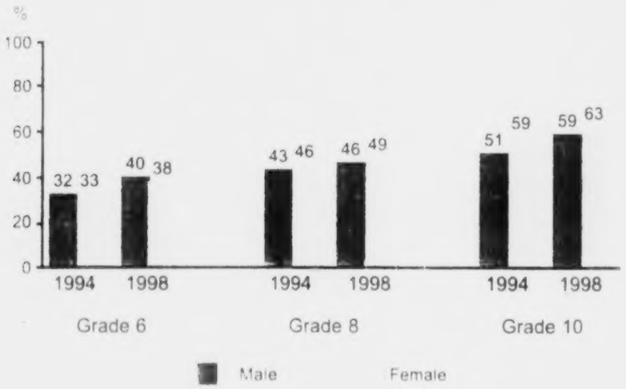
Students in Grades 6-10 Who Were Very Happy About Their Life
Canada, 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

4.22

Students in Grades 6, 8 and 10 Who Had a Backache Once a Month or More During the Last 6 Months
Canada, 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

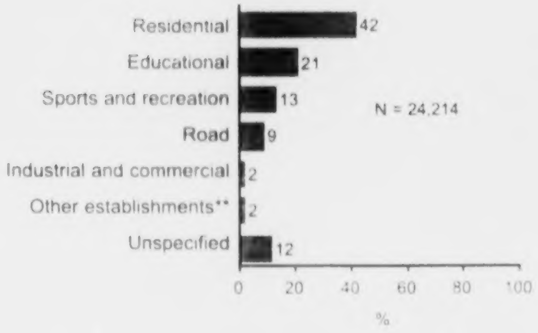
The 1998 Health Behaviours of School Age Children survey reveals that a substantial proportion of students had backaches once a month or more during the last six months. Slightly more students in each grade reported backache in 1998 than in 1994. Older youth were more likely than younger youth to report back problems. According to King et al (1999), backaches may be associated with exercise, posture and rapid growth. For girls, it may also be associated with menstrual physiology. Other research suggests that the weight of the backpacks young people carry may contribute to back problems. As backache is a major cause of chronic pain and absenteeism in adults, King et al (1999) conclude that there is a need for remediation and exercise programs for youth.

Injuries

According to the Canadian Hospital Injury Reporting and Prevention Program (CHIRPP), the greatest proportion of injuries treated in emergency rooms among children aged 5-9 years were incurred in residential environments (42% or about 10,000 injuries). Schools (educational environments) were the second most likely places for an injury to be incurred (21% or about 5,000 injuries), followed by sports and recreational facilities (13% or about 3,100 injuries). Although injuries incurred in traffic collisions represent a relatively small percentage of emergency room injury-related visits, they are more likely to be serious and require hospitalization.

4 - [illegible]

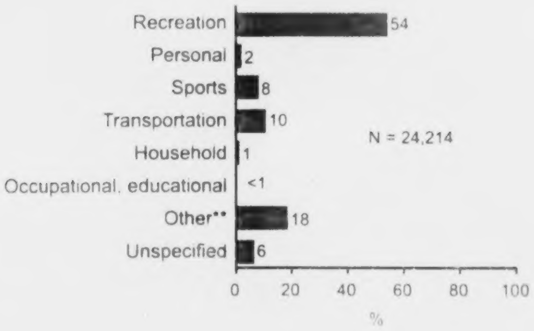
Injuries by Location, Children Aged 5-9 Years
Canada*, 1997



* Cases reported by 15 Canadian hospitals of which 10 are paediatric, participating in CHIRPP
** Includes hospitals.
Source: Special runs for CICH conducted by Health Canada, Bureau of Reproductive and Child Health.

4 - 14

Injuries by Activity, Children Aged 5-9 Years
Canada*, 1997



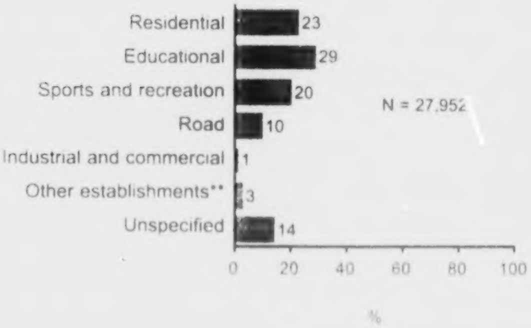
* Cases reported by 15 Canadian hospitals of which 10 are paediatric, participating in CHIRPP
** Includes walking, sitting and running.
Source: Special runs for CICH conducted by Health Canada, Bureau of Reproductive and Child Health.

For children aged 5-9 years, injuries treated in CHIRPP emergency rooms were most likely to occur while engaged in recreational activities, such as playing (54% or about 13,000 injuries). Transportation-related injuries were the second most likely (10% or about 2,400 injuries), followed by sports-related injuries (8% or about 2,000 injuries). The distribution of injuries by activity does not tend to change from year to year.

According to data from CHIRPP, the proportion of injuries incurred in residential, educational and sport/recreation facilities changes as children age. For children aged 10-14 years, the leading locations for injuries were educational environments (29% or about 8,100 injuries), residential environments (23% or about 6,400 injuries) and sports and recreation environments (20% or about 5,600 injuries). Although injuries incurred in traffic collisions represent a relatively small percentage of emergency room injury-related visits, they are more likely to be serious and require hospitalization.

4

Injuries by Location, Children Aged 10-14 Years
Canada*, 1997



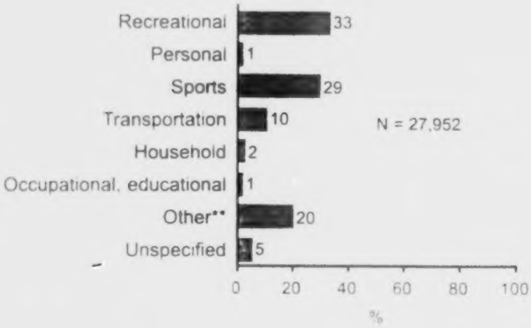
* Cases reported by 15 Canadian hospitals of which 10 are paediatric, participating in CHIRPP

** Includes hospitals, farms and underdeveloped natural spaces

Source: Special runs for CICH conducted by Health Canada, Bureau of Reproductive and Child Health

4-35

Injuries by Activity, Children Aged 10-14 Years
Canada*, 1997



* Cases reported by 15 Canadian hospitals of which 10 are paediatric, participating in CHIRPP

** Includes running, fights and intentionally hurting oneself

Source: Special runs for CICH conducted by Health Canada, Bureau of Reproductive and Child Health

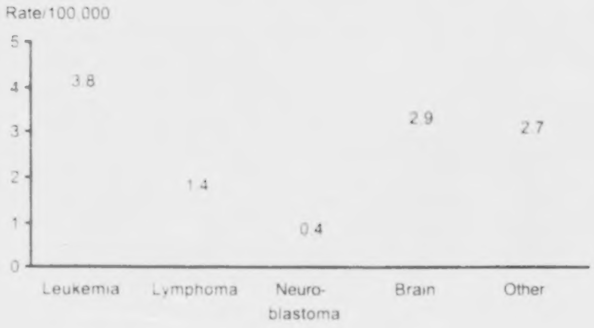
Children aged 10-14 years were most likely to be injured while engaged in recreation (33% or 9,200 injuries) and sporting activities (29% or about 8,100 injuries). This finding suggests that children, parents and coaches need more and better information about safety equipment and safety behaviours. Transportation-related injuries accounted for 10% of the injuries treated in CHIRPP hospitals (about 2,800 injuries).

Cancer

Leukemia, brain tumours and lymphoma were the most common cancers diagnosed in children aged 5-9 years between 1985-94. According to the Laboratory Centre for Disease Control in Canada (1999), the incidence of childhood cancer has been relatively stable over the past 15 years. There have, however, been significant improvements in the survival rate.

4-37

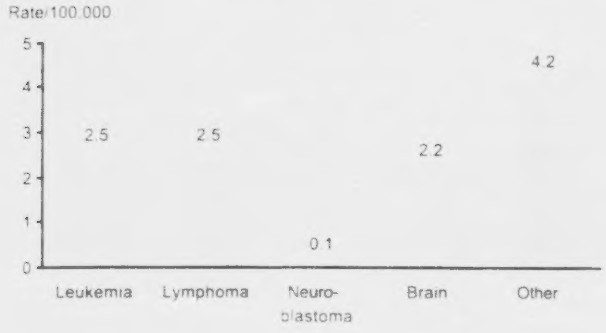
Cancer Incidence Rates*, Children Aged 5-9 Years, by Main Cancer Type
Canada, 1985-1994



* Due to small numbers, the Laboratory Centre for Disease Control calculated annualized rates for the ten year period.
Source: Health Canada. Laboratory Centre for Disease Control. 1999. *Measuring Up: A Health Surveillance Update on Canadian Children and Youth.*

4-38

Cancer Incidence Rates*, Children Aged 10-14 Years, by Main Cancer Type
Canada, 1985-1994



* Due to small numbers, the Laboratory Centre for Disease Control calculated annualized rates for the ten year period.
Source: Health Canada. Laboratory Centre for Disease Control. 1999. *Measuring Up: A Health Surveillance Update on Canadian Children and Youth.*

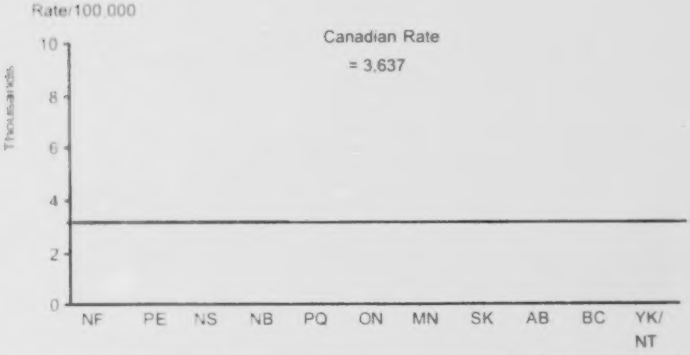
Leukemia, lymphoma and brain tumours were the most common cancers diagnosed in children aged 10-14 years between 1985-94. The leukemia and brain tumour rates for this age group were lower than the rates for children aged 5-9 years. The lymphoma rate, however, was higher than the rate for children age 5-9 years. The chart reports ten-year rates because the annual rate is too low to be meaningful.

Hospitalization

For children aged 5-14 years, the rate of hospital admission was highest in New Brunswick, Newfoundland and Saskatchewan and lowest in Ontario, Québec and British Columbia. Higher rates may reflect factors such as the proportion of the population living in rural and remote areas and the proportion of the population that is of Aboriginal identity.

4-39

Hospitalization* All Causes, Children Aged 5-14 Years
Canada, Provinces and Territories, 1996-1997

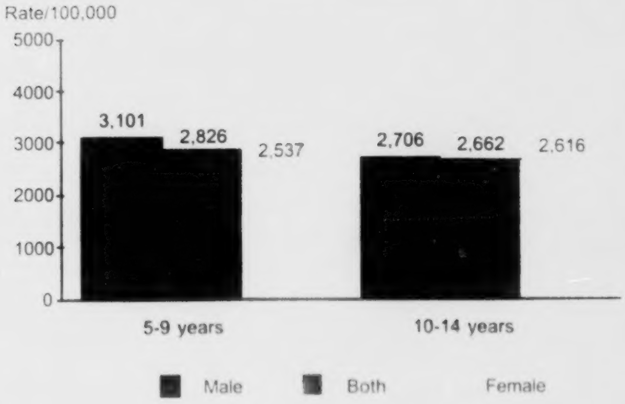


	NF	PE	NS	NB	PQ	ON	MN	SK	AB	BC	YK/NT
Rate ('000s)	4.552	4.234	3.497	4.946	2.574	2.296	2.888	4.411	2.876	2.714	3.652

* Acute care in-patient hospitalizations only.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

4-40

Hospitalization* All Causes, Children Aged 5-9 Years and Aged 10-14 Years
Canada, 1996-1997



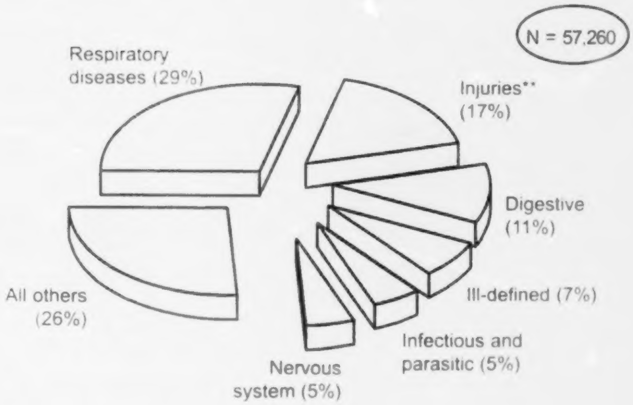
* Acute care in-patient hospitalizations only.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

Among children aged 5-9 years, boys had a significantly higher hospitalization rate (3,101/100,000) than girls (2,537/100,000). Among children aged 10 to 14 years, the gender difference was no longer significant.

In 1996-97, respiratory diseases were the leading cause of hospitalization for children 5-9 years of age (29%), followed by injuries (17%) and digestive problems. These findings are consistent with the leading causes of hospitalization identified for previous years (see Hanvey et al, 1994). Many experts agree that hospitalization during childhood is often the result of underlying chronic respiratory and neurological illnesses.

4

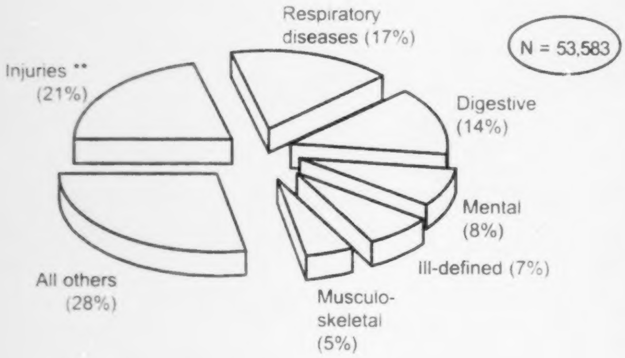
Hospitalization* by Leading Causes,
Children Aged 5-9 Years
Canada, 1996-1997



* Acute care in-patient hospitalizations only.
**Includes poisoinings and self-inflicted injuries.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

4 - 12

Hospitalization* by Leading Causes,
Children Aged 10-14 Years
Canada, 1996-1997



* Acute care in-patient hospitalizations only.
** Includes poisoinings and self-inflicted injunes.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

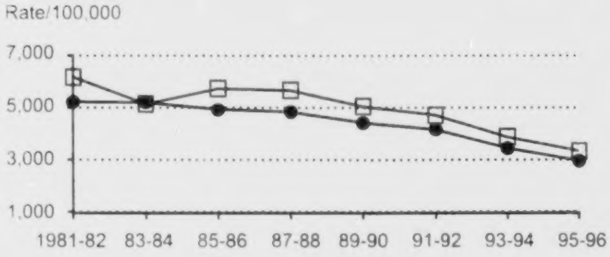
For children aged 10-14 years, the leading causes of hospitalization were injury (21%) followed by respiratory illness (17%). Injuries constitute a major health problem for youth and young adults. This is particularly troublesome as most injuries are not "accidents" so much as predictable events associated with identifiable risk factors (Smartrisk, 1998).

Hospitalization rates for all causes for both males and females aged 5-14 years decreased between 1981-82 and 1995-96.This decline is, in part, attributable to the restructuring of the health care system and to the increase in pediatric ambulatory care.

4 - 4 3

Hospitalization Rates, Children Aged 5-14 Years

Canada, Provinces and Territories, 1981-1982 to 1995-1996



Male ☐	6,173	5,145	5,742	5,676	5,059	4,715	3,879	3,335
Female ●	5,221	5,213	4,926	4,850	4,421	4,170	3,445	2,955

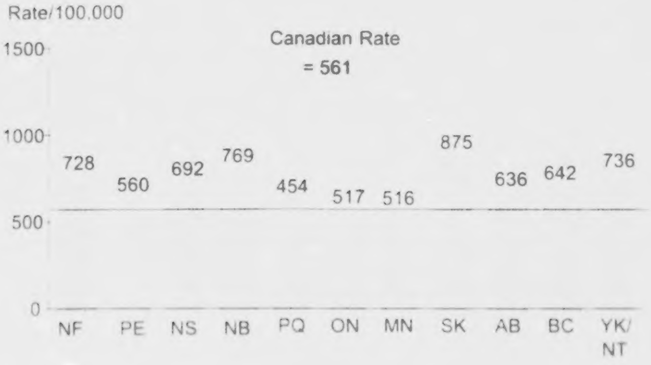
Note: Includes general and allied special hospitals (e.g. acute in-patient, chronic care and rehabilitation).

Source: Hanvey, L. et al. 1994. *The Health of Canada's Children: A CICH Profile, 2nd Edition.*
CICH using Canadian Institute for Health Information data and Statistics Canada Census data.
Statistics Canada. Summary statistics (see full citation in reference section).

4 - 4 4

Injury Hospitalization Rates, Children Aged 5-9 Years

Canada, Provinces and Territories, 1996



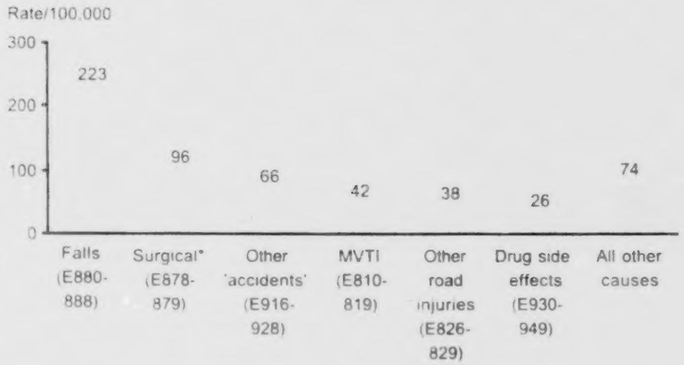
Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

There was considerable variation and range in the injury hospitalization rates across Canada in 1996. The lowest injury hospitalization rate was reported in Québec (454/100,000) and the highest was reported in Saskatchewan (875/100,000). The average rate in Canada was 561/100,000.

In 1996-97, "falls" were by far the leading cause of injury hospitalization for children aged 5-9 years in Canada. "Motor vehicle traffic injuries" and "other road injuries" were also significant causes of injury hospitalization. These leading causes are consistent with those identified by Hanvey et al (1994) for 1989-90.

4 - 45

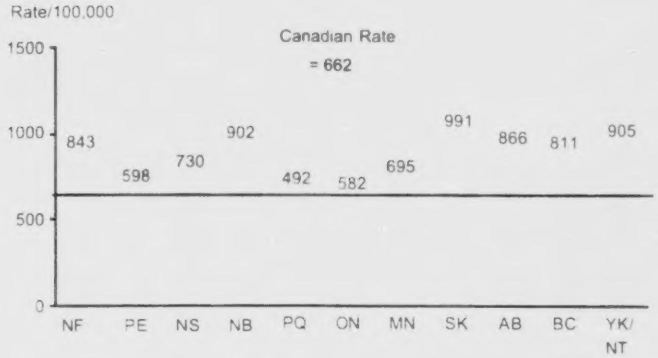
Injury Hospitalization Rates, by Leading Cause, Children Aged 5-9 Years
Canada, 1996-1997



* Includes medical procedures as the cause of abnormal reaction of patient or later complication, without mention of misadventure at the time of procedure.
Note: E-codes from the International Classification of Diseases, 1975 Revision, Volume 1.
MVTI = Motor Vehicle Traffic Injuries
Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

4 - 46

Injury Hospitalization Rates, Children Aged 10-14 Years
Canada, Provinces and Territories, 1996



Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

There was considerable variation in the injury hospitalization rates for children aged 10-14 years across Canada in 1996. The lowest injury hospitalization rate was reported in Québec (492/100,000) and the highest was reported in Saskatchewan (991/100,000), more than double that of Québec.

In 1996-97, "falls" were the leading cause of injury hospitalization for children aged 10-14 years. "Motor vehicle" and "other road injuries" were also significant causes of injury hospitalization. This is the first age group where suicide emerges as one of the leading causes of injury hospitalization.

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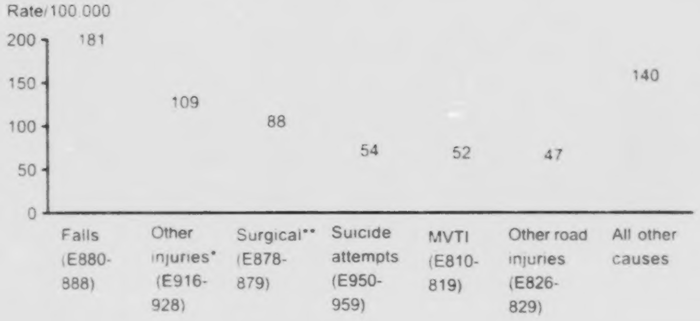
Injury Hospitalization Rates, by Leading Cause, Children Aged 10-14 Years

Canada, 1996-1997



* The word Injuries has been subsituted for the word Accidents.

** Includes medical procedures as the cause of abnormal reaction of patient or later complication, without mention of misadventure at the time of procedure.

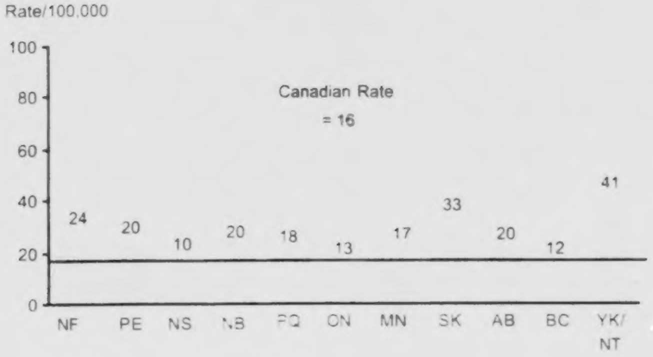
Note: E-codes from the International Classification of Diseases, 1975 Revision, Volume 1; MVTI = Motor Vehicle Traffic Injuries

Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

4 - 4 8

Death Rates All Causes, Children Aged 5-9 Years

Canada, Provinces and Territories, 1995



Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

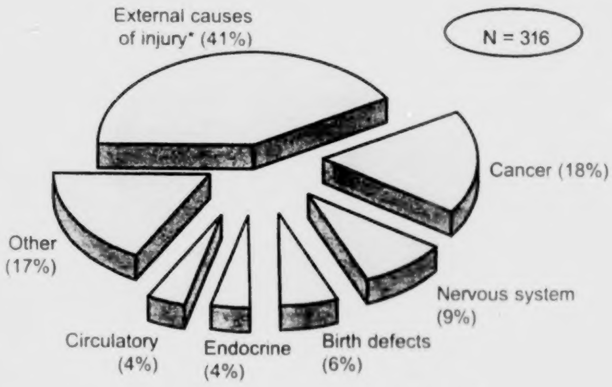
Death

The 1995 death rates for children aged 5-9 years varied across the country, with a national average of 16 per 100,000. The lowest rate (10/100,000) was reported in Nova Scotia. The highest rate was reported in the Territories (41/100,000), four times the Nova Scotia rate. Among the provinces, Saskatchewan reported the highest death rate (33/100,000) for this age group, three times the Nova Scotia rate.

In 1997, external causes of injury were the leading causes of death among 5-9 year olds, accounting or 41% of all deaths (or almost 130 deaths). This means that the majority of deaths in this age group were potentially preventable. Thus, although death rates for this age group have decreased over time, there is still room for improvement. Cancer accounted for another 18% of deaths for this age category (about 57 deaths).

4 - 49

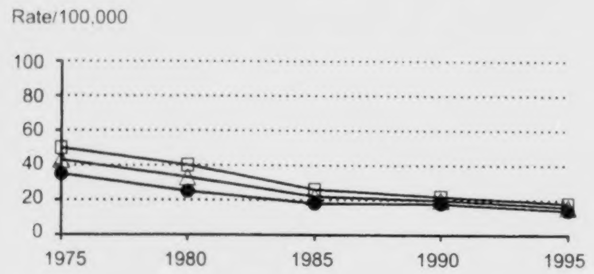
Leading Causes of Death, Children Aged 5-9 Years
Canada. 1997



* Includes poisonings and self-inflicted injuries.
Source: Statistics Canada. 1999. *Leading Causes of Death at Different Ages.* Shelf Tables.

4 - 50

Death Rates, All Causes, Children Aged 5-9 Years
Canada, 1975, 1980, 1985, 1990 and 1995



	1975	1980	1985	1990	1995
Male ☐	50	40	26	22	18
Both △	43	33	22	20	16
Female ●	35	25	18	18	14

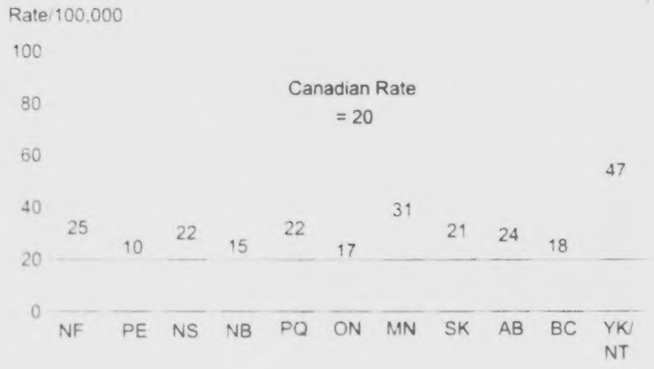
Source: CICH using Statistics Canada. 1997. *Births and Deaths, 1995.*

Between 1975 and 1995, the death rate for all causes for children 5-9 years of age declined from 43 per 100,000 to 16 per 100,000. The rate of decline slowed between 1990 and 1995. Since 1975, the death rate for boys aged 5-9 years has been higher than the death rate for girls aged 5-9 years. However, the death rate for boys has decreased more rapidly than the death rate for girls, closing the gap between the two.

The death rate, for all causes, for children aged 10-14 years varied considerably across Canada, with an almost five-fold difference between the lowest and highest rates. The lowest rate (10/100,000) was reported in Prince Edward Island. The highest rate (47/100,000) was reported in the Territories. Among the provinces, the highest rate was reported in Manitoba (31/100,000).

4-51

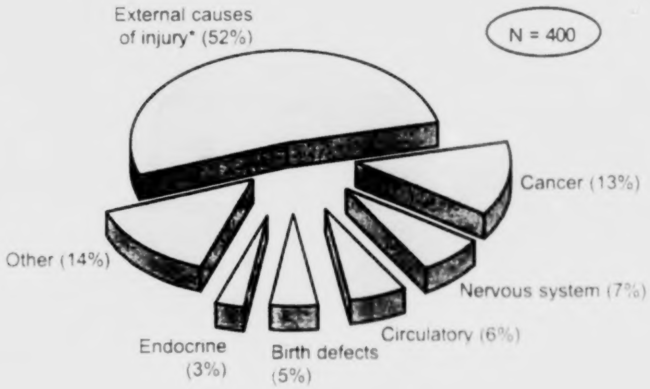
Death Rates All Causes, Children Aged 10-14 Years
Canada Provinces and Territories, 1995



Source: CICH using Statistics Canada. 1997. *Births and Deaths, 1995*

4-52

Leading Causes of Death, Children Aged 10-14 Years
Canada, 1997



* Includes poisonings and self-inflicted injuries
Source: Statistics Canada. 1999. *Leading Causes of Death at Different Ages.* Shelf Tables.

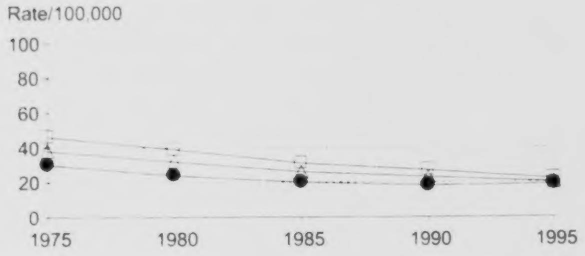
In 1997, external causes of injury (including poisonings) were the leading causes of death for children aged 10-14, accounting for 52% of all deaths (204 deaths). This is particularly distressing as injuries are largely preventable. Some poisonings may be the result of experimentation with licit and illicit substances. Cancer accounted for another 13% of deaths in this age group (52 deaths).

Death rates for children aged 10-14 years have declined since 1975, although the rate of decline slowed in the 1990s. Research is needed to understand how this rate can be reduced further. Males aged 10-14 years are still slightly more likely to die than their female peers; however, the gender difference between the death rates has been reduced considerably over the last twenty years. The lower death rates can be partially attributed to the increased use of protective equipment (bicycle helmets) and safety devices (seat-belts) but they may also be a result of a widespread campaign to educate children and adults alike and to raise awareness about injury prevention.

4-53

Death Rates All Causes, Children Aged 10-14 Years

Canada, 1975, 1980, 1985, 1990 and 1995



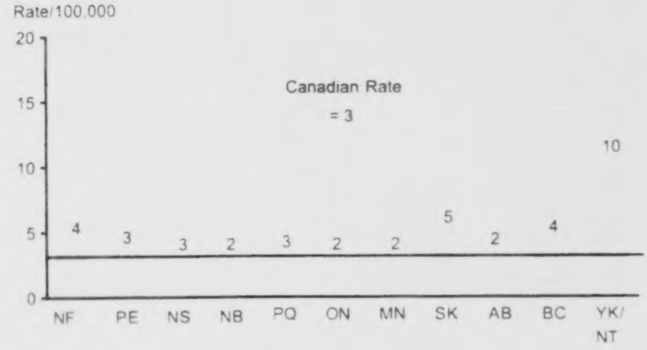
		1975	1980	1985	1990	1995
Male	□	46	39	31	27	22
Both	△	38	32	26	23	20
Female	●	30	24	20	18	19

Source: CICH using Statistics Canada. 1997. *Births and Deaths, 1995.*

4-54

Injury Death* Rates, Children Aged 5-9 Years

Canada, Provinces and Territories, 1994-1996 (3-year Rate)



* Deaths occurring in hospital only

Note: Due to small number of deaths in this age group, the rate has been calculated based on deaths over a three year period.

Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

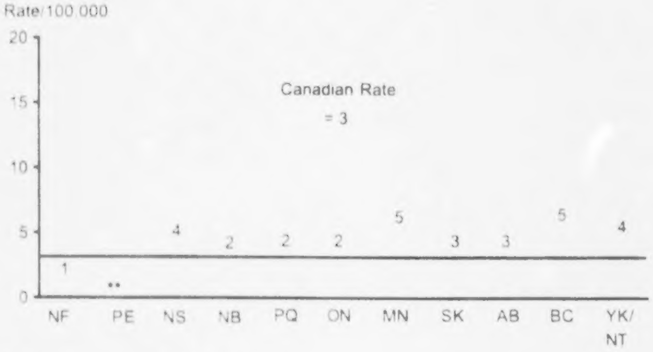
The rate of injury death for children aged 5-9 years, for 1994 through 1996, ranged from 2/100,000 in New Brunswick, Ontario, Manitoba and Alberta to 5/100,000 in Saskatchewan. The rate for the Territories was higher at 10/100,000. The injury death rate for this age group for Canada was 3/100,000.

The rate of injury death for children aged 10-14 years, for 1994 through 1996, varied across Canada. The highest rates were reported in Manitoba and British Columbia (5/100,000). The lowest rates were reported in Prince Edward Island (too small to calculate) and Newfoundland (1/100,000). The rate of injury death for children aged 10-14 years in Canada was 3/100,000.

4 - 55

Injury Death* Rates, Children Aged 10-14 Years

Canada, Provinces and Territories, 1994-1996 (3-year Rate)



* Deaths occurring in hospital only

** Numbers too small to calculate rate

Note: Due to small number of deaths in this age group, the rate has been calculated based on deaths over a three year period

Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data

4 - 56

Number of Pedestrians Killed or Injured in Traffic Collisions, by Age Group and Pedestrian Action

Canada, 1995

Pedestrian Action	Birth-4 years	5-14 years	15-19 years
Crossing intersection with right-of-way	45	353	310
Crossing intersection without right-of-way	30	402	242
Crossing intersection/highway, no traffic control	64	641	318
Playing, walking, working, hiking on roadway*	21	228	183
Running into roadway	90	464	93
Other/unspecified	115	550	428

* Includes rural highway and bridge

Source: Transport Canada Safety and Security. 1996. *Traffic Collision Statistics in Canada - 1995. Road Safety*

The largest number of pedestrian injuries and deaths due to traffic collisions are reported for school age children (5-14). In 1995, 1,396 school age children in Canada were killed or injured while crossing an intersection. Another 464 school-aged children were killed or injured running out into the road. Research has shown that children under the age of 9 are not developmentally ready to make safe traffic judgements. Children aged 9 and older are, however, also at risk in traffic situations. These numbers speak to the need for safer routes to school designed according to children's developmental abilities.

School Aged Children

By Senator Landon Pearson

The primary business of the school-aged child is the acquisition, within structured social settings, of the basic knowledge and skills essential to a productive and meaningful life. It is during this period that boys and girls develop most of the habits of body, mind and spirit they will carry into their adult lives. The great majority of children in Canada enter school eager to learn and ready to take an active role in their own development. Therefore, the main task for parents, teachers and others who are directly concerned with children in this age group is to understand the strengths and weaknesses of individual children and ensure that the settings in which they find themselves challenge but do not overwhelm their evolving capacities.

When children make the transition to school, they enter a wider world. New actors and new conditions become central to their lives. The openness that is characteristic of middle childhood demands special attention from all who are engaged with their growth and development. This is a critical period for health education in all its forms, for learning about the body and what it needs for all of its systems to function well, for learning about the emotions and how to manage them. This is the time when patterns of physical activity can be set if children are encouraged to engage in organized sport and recreation. Constructive patterns of friendship and social engagement can also be shaped by active membership in clubs, organizations and groups. A life-long passion for reading, culture and the arts may emerge if adults provide children with adequate opportunities to get involved.

The end of this period is marked by the onset of puberty, an entirely new stage of development. This is the time for experimentation and for the construction of identity. This is also the time for adults to rethink the way they interact with their own special young people because young adolescents have to learn to take increasing responsibility for their own health and well-being, a responsibility that their parents and others will need to relinquish. This is not always easy, but it is essential.

The data contained in this chapter reflect the growth and change that marks the lives of children and youth at school. As long as the characteristics of these two distinct periods are kept in mind, this information, in addition to its intrinsic interest as research material, should prove useful for shaping appropriate policy responses.

Senator Landon Pearson is the Advisor on Children's Rights to the Minister of Foreign Affairs and a member of the Senate of Canada. She has a long-standing commitment to the health and well-being of children and youth.

Chapter 5

Youth

> *“We are strong-willed young adults. We have a voice and an opinion and we are allowed to speak it. We should never be prejudged when walking down the street.”*
>
> Katrine, aged 15 years, Nova Scotia.

> *“In all society, there needs to be an opening up and sharing of opinions and feelings.”*
>
> Shawn, aged 16 years, Ontario.

Who are the youth of Canada?

In 1996, youth (broadly defined by Statistics Canada as children 10-19 years of age) represented a smaller proportion of the population than they did in 1976. In fact, there were fewer youth, in absolute numbers, in 1996 than there were in 1976. This situation will change as the next cohort of young people grows up. Thus, the relative size of this generation of youth makes it unique. One in five youth belongs to a visible minority group. On the one hand, diversity is a community asset, broadening minds and teaching tolerance. On the other hand, differences can lead to racism and discrimination. How our communities manage diversity is crucial to the well-being of youth in Canada.

How do youth contribute to their families, communities and society?

Do youth have the opportunities that they need to develop into civic adults?

Youth across Canada contribute to their families and communities as students, employees and volunteers. However, the extent to which they can reach their potential in these roles is limited by the prevailing socio-economic climate and by other social barriers. Post-secondary education is increasingly expensive in Canada and job opportunities and real earnings for young people have declined, especially for young men. Further, chances to participate vary dramatically among regions in Canada. If youth are to fulfil their potential as members of a civic society, there must be a comprehensive youth strategy promoting their full participation.

Do they practice healthy behaviours?

Little research has been done that addresses how youth promote their own health. Research suggests that many youth practice healthy behaviours. For example, the majority of youth report exercising at least three times a week. However, youth also take risks with their health. Many try smoking and drinking alcohol. Some experiment with illicit drugs, primarily cannabis. Whereas smoking presents a substantial risk of long-term addiction, most youth will not develop a drinking problem or become addicted to drugs. They may, however, be injured while under the influence of these substances. Childhood is about exploration and learning, about ever-increasing independence and decision-making. This is true of the four year old child, playing with other children in the park, and it is true of the sixteen year old child, socializing with friends. Youth need the guidance, support and respect of caring adults as they navigate their social world, making decisions that can impact their health and well-being.

What do we know about youth sexuality and reproductive health?

Sexual activity is one of the riskiest behaviours practiced by youth. This is because the majority of youth who are sexually active do not adequately protect themselves from the risks of pregnancy or sexually transmitted diseases. Pregnancy presents youth with difficult decisions. More and more often, youth choose abortion. Despite the medical risks and emotional strain, the abortion rate has climbed steadily since 1974. Youth who choose to become parents face other challenges, including an increased likelihood of low educational achievement and low income. Sexually transmitted diseases can also have devastating consequences, including lifelong infection, infertility and death.

Youth is a time during which individuals explore their sexual identity. This is a confusing process for all youth. Youth who are lesbian, gay, bisexual or trans-gender may face added challenges such as fear of rejection and discrimination. One study in British Columbia (biased towards young people who were "out") found that lesbian, gay, bisexual and trans-gender youth were more likely to attempt suicide than other youth. The main reasons they identified for attempting suicide were experiences of loneliness and isolation.

Does gender matter to youth health and well-being?

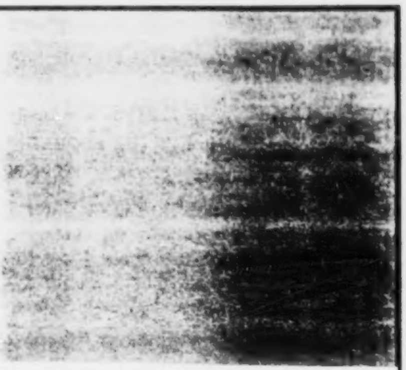
Gender makes a substantial difference. The leading cause of hospitalization for female youth is pregnancy; for males the leading cause is injury. Female youth are more likely to be hospitalized for suicide attempts than male youth, but the suicide attempts of male youth are more likely to result in death.

What populations of youth are at particular risk in Canada?

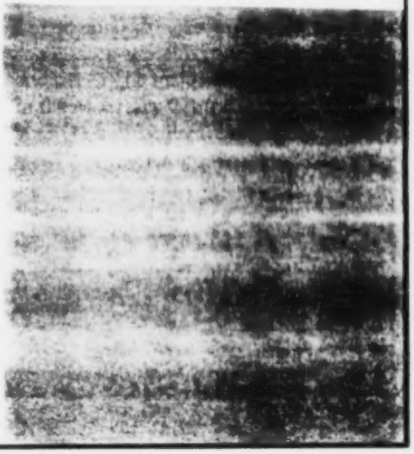
Certain populations of youth, such as youth on the street and sexually exploited youth, are at extreme risk for unhappiness, injury and illness. The majority of street youth and sexually exploited youth interviewed in two recent studies reported previous histories of physical or sexual abuse. They reported higher levels of mental illness and many indicated that they had thought about or attempted suicide. They reported lower levels of health overall. Further, sexually exploited youth and street youth were more likely than their mainstream peers to have learning disabilities and emotional problems.

Are we hearing the voices of youth?

Adults rarely recognize youth as a community resource and they resist acknowledging youth as people who can contribute to their own health and well-being. Tullio Caputo (1998) identified six barriers that impede communication between adults and youth and prevent the full participation of youth in program development and delivery. These are: stereotypes about youth, conflicting goals and objectives for youth programs, lack of continuity (as youth grow up and move on), unequal participation, the need for training in communication and organizational skills, and adult resistance to sharing power. Are we hearing the voices of youth? Not yet.



> ***"My friends and I are all super healthy. We have part-time jobs, we love doing sports, we do volunteer work, we have supportive families. But there are a lot of issues like drinking, drugs, sex and peer pressure, and younger kids are being affected more and more."***
>
> **Stacey, aged 15 years, Ontario.**

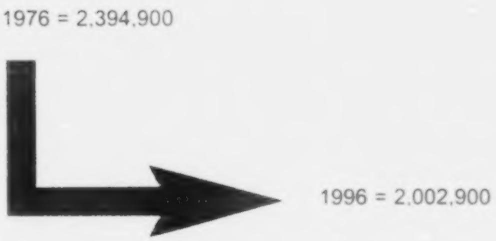


The Youth Population

5 - 1

In 1976, there were approximately 2,394,900 youth aged 15 to 19 years in Canada and in 1996 this figure dropped by 392,000 to approximately 2,002,900. This downward trend in actual numbers will not continue with the next cohort of young people. The decrease in the size of the youth population does not change the fact that there are still too few opportunities for this group, particularly for education, recreation and employment.

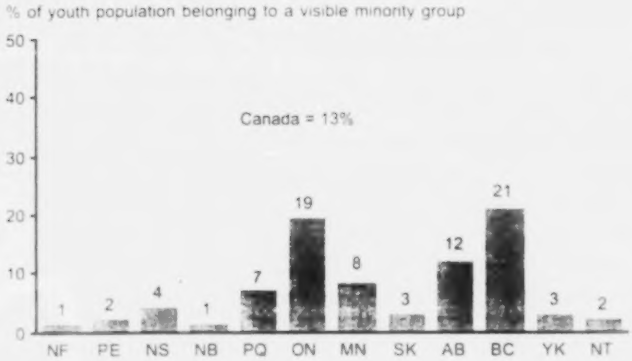
Absolute Numbers of Youth Aged 15-19 Years
Canada, 1976 and 1996



Statistics Canada. 1998. *Canada Year Book, 1999*

5 - 2

Visible Minority* Youth Aged 12-17 Years as a Percentage of the Total Youth Population
Canada, 1996



*Visible minorities are defined as persons in Canada, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour.
Source: Statistics Canada. 1998. *A Profile of Youth Justice in Canada*.

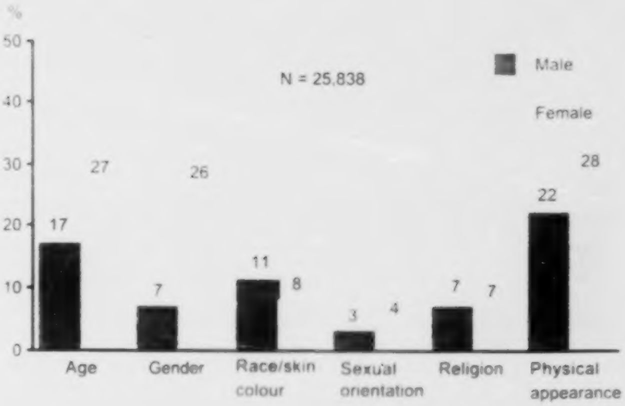
Youth who belong to visible minorities make up a significant proportion of the youth population in Canada. In British Columbia and Ontario, approximately one in five youth belongs to a visible minority. These youth may encounter racism in their day-to-day lives or discrimination in school, the community or the workplace.

In the 1998 Adolescent Health Survey in British Columbia, youth were asked about their experiences with discrimination. For both males and females, physical appearance was the most commonly cited reason for the discrimination. Race and/or skin colour were less frequently mentioned. Females were almost four times as likely as males to report discrimination on the basis of gender.

5

Percentage of Youth in Grade 7-12 Who Were Discriminated Against in the Past Year, by Gender

British Columbia, 1998



Source: The McCreary Centre Society. 1999. Healthy Connections: *Listening to BC Youth. Highlights from the Adolescent Health Survey II.*

5 - 6

"Civic Society"

- According to the Canadian Council on Social Development (1998a: 31), the term refers to "the strength of the social networks within a community, region, province and country". It is "reflected in the presence of institutions, organizations and informal practices that people create to share resources and build attachments with others".
- Young people need opportunities to reach their potential as neighbours, students, employees and volunteers. They need opportunities to establish relationships beyond the narrow scope of family and friends. Youth who perceive themselves as contributing members of society may be less likely to experience mental health problems such as low self-esteem, loneliness and alienation.

Source: Canadian Council on Social Development. 1998. *The Progress of Canada's Children, 1998*

Determinants of Health and Well-Being

Civic Responsibility

Young people told us: "We have a big role in the community as role models for younger people, therefore, we all don't steal or drink and do drugs. Some of us really dig in and help out, with the help of our peers, to contribute to our community". Crystal, aged 14 years, Newfoundland.

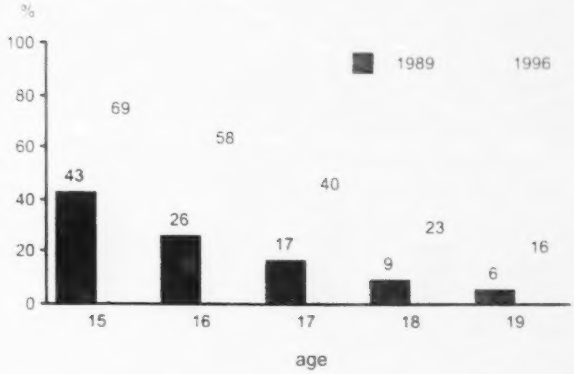
"Some solutions I see are finding alternatives instead of getting involved in gang-related activities. Volunteering in the community, letting people know that youth are not always causing problems." Carmen, aged 16 years, Alberta.

According to the Canadian Council on Social Development (1998b), the proportion of youth who have never had paid employment increased substantially between 1989 and 1996. Employment during the teenage years helps young people develop work skills and build their resumes. It also provides youth with income and, by extension, an opportunity to increase independence. Also, youth employment, particularly in meaningful occupations, contributes to optimism and a positive future orientation, important aspects of resiliency.

5 - 5

Proportion of Youth Who Have Never Had Paid Employment

Canada, 1989 and 1996

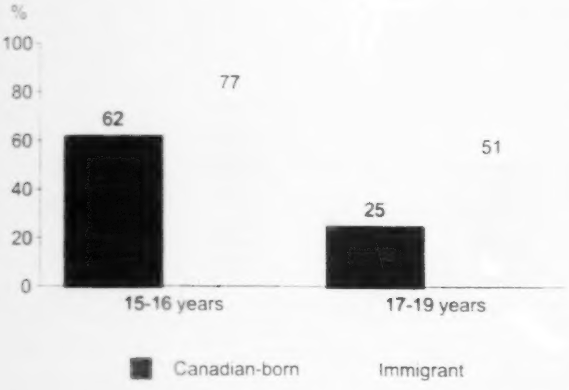


Source: Canadian Council on Social Development. 1998. *Youth at Work in Canada: A Research Report.*

5 - 6

Proportion of Youth Who Have Never Had Paid Employment, by Immigration Status

Canada, 1996



Source: Canadian Council on Social Development. 1998. *Youth at Work in Canada: A Research Report.*

According to the Canadian Council on Social Development (1998b), youth who were born outside of Canada are less likely to have ever had paid employment than Canadian-born youth. This distinction is true for both younger and older youth. This may indicate different employment opportunities or it may reflect different choices about employment and education (CCSD, 1998b). Youth born outside of Canada may also face discrimination in the workplace.

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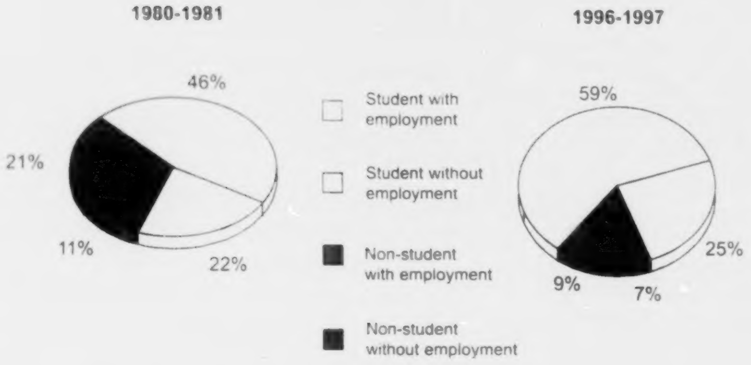
Education has emerged in the 1990s as a central strategy among youth for negotiating the transition into adulthood. In 1980-81, 68% of youth were students compared to 84% in 1996-97. The proportion of the students both in school and working increased slightly between 1980-81and 1996-97, from 22% to 25%. The proportion of youth who were non-students with employment fell from 21% in 1980-81 to 9% in 1996-97.

5 - 7

Employment and Student Status of Youth

Canada, 1980-1981 and 1996-1997*



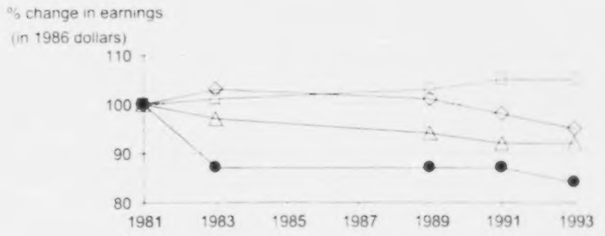
*Estimates refer to the period between September and April.

Source: Canadian Council on Social Development. 1998. *Youth at Work in Canada: A Research Report.*

5 - 8

Salaries of Men Working Full-time

Canada, 1981-1993



		1981	1983	1985	1987	1989	1991	1993
45-54	□	100	101	N/A	N/A	103	105	105
35-44	◇	100	103	N/A	N/A	101	98	95
25-34	△	100	97	N/A	N/A	94	92	92
18-24	●	100	87	N/A	N/A	87	87	84

Note: 1981 = 100

Source: Morissette, R. (Statistics Canada). 1998. *The Declining Labour Market Status of Young Men*

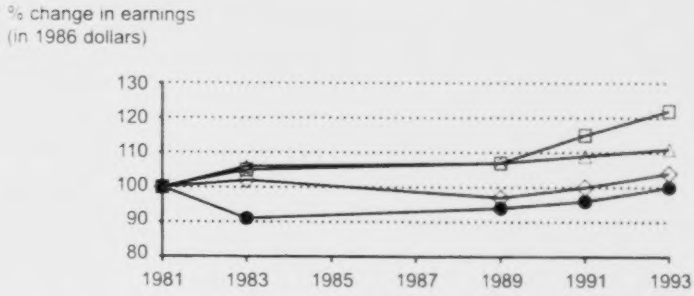
Between 1981 and 1993, there was a progressive loss of opportunity in the labour market for young men. Morissette (1998) noted that, despite a general growth in levels of education, fewer young men participated in the labour market and their earnings capacity declined between 1982 and 1994. This was true regardless of occupation. One consequence of this trend is that these young men, and their young families, are at increased risk of living in difficult circumstances due to low income.

The real annual wages and salaries of young women (ages 18-24) have held relatively constant, after a dip in the mid-1980s. For slightly older women (ages 25-34), they have remained stable. For women aged 45-54 there was an increase in earnings. In general, for women aged 18-34 years, real annual salaries and wages were low when compared with male workers and older women. Important strategies for coping with low income include delaying marriage and childbearing, increasing levels of education, living with parents longer, living in two-earner families (Corak, 1998) and working at more than one job. All of these strategies have implications for children's health and well-being.

5 - 9

Salaries of Women Working Full-time

Canada, 1981-1993



45-54	☐	100	105	N/A	N/A	107	115	122
35-44	△	100	106	N/A	N/A	107	109	111
25-34	◇	100	102	N/A	N/A	97	100	104
18-24	●	100	91	N/A	N/A	94	96	100

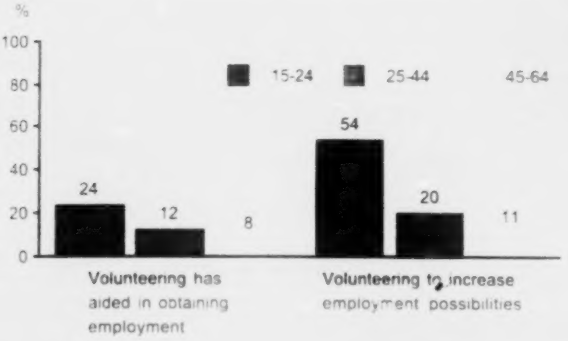
Note: 1981 = 100

Source: Morissette, R. (Statistics Canada). 1998. *The Declining Labour Market Status of Young Men.*

5 - 10

Perception of Volunteering Advantages, by Age Group

Canada, 1997



Source: Statistics Canada. 1998. *Caring Canadians, Involved Canadians: Highlights From the 1997 National Survey of Giving, Volunteering and Participating.*

Increasingly, youth are choosing to participate in the voluntary sector. The youth volunteer rate nearly doubled between 1987 and 1997, increasing from 18% to 33% (Statistics Canada, 1998c). The 1997 National Survey of Giving, Volunteering and Participating (Statistics Canada, 1998c) found that youth had high expectations of volunteering. 54% of youth volunteers believed that volunteering increased their employment possibilities and 24% reported that volunteering had aided them in obtaining employment. Youth were far more likely to report employment advantages due to volunteering then any other age group.

On the one hand, youth are often the victim of youth crime and may, as such, experience physical or psychological harm. On the other hand, while in custody as a consequence of crime, youth generally experience living conditions that elevate the risk of injury and illness. Thus, criminal activity is a lose-lose situation for youth.

5

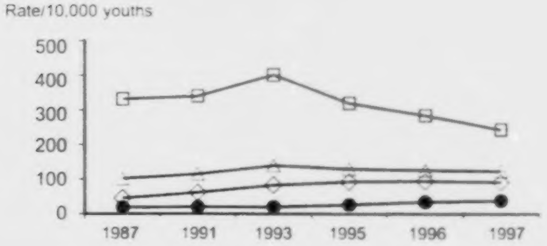
Youth Criminal Activity

- The violent crime rate for youths doubled between 1987 and 1997 (the peak year was 1996).
- Some of this increase may be attributable to a shift in social attitudes ("zero tolerance").
- Between 1987 and 1997, the violent crime rate for female youth increased 179%. The violent crime rate for male youth increased by 85%.
- The actual rate of girls charged with a violent crime in 1997 (47 per 10,000) was still much lower than the rate for male youth (133 per 10,000).

Source: Stevenson, K. et al (Statistics Canada). 1999. Youth and Crime. *Canadian Social Trends*, Summer, No. 53.

5 - 2

Crime Rate for Youth Aged 12-17 Years
Canada, 1987-1997



	1987	1991	1993	1995	1996	1997
Property crime ☐	331	340	401	320	285	243
Other criminal code △	101	115	139	130	126	123
Violent crimes ◇	45	61	83	92	94	91
Other federal statutes ●	18	19	20	26	34	38

Note: The rate of youths charged includes only those 12-17 year olds who have been apprehended and charged by police.

Source: Stevenson, K. et al. (Statistics Canada). 1999. Youth and Crime. *Canadian Social Trends*. Summer, No. 53.

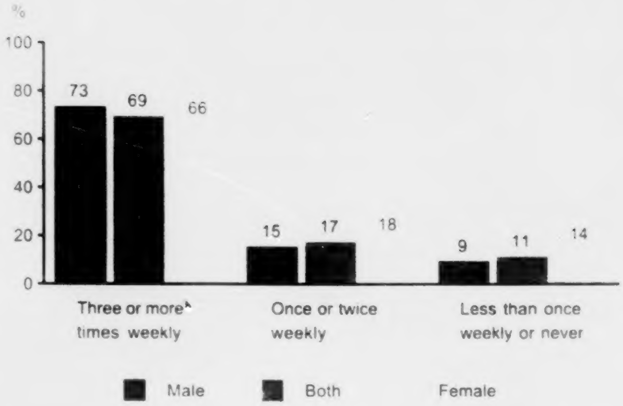
Between 1993 and 1997, the rate of youth charged with property offences, the most common kind of youth crime, dropped steadily. The rate of youth charged with violent crimes increased steadily between 1987 and 1996 and then fell slightly in 1997. According to the National Crime Prevention Council (1996), crime prevention must focus on young children and children living in conditions that place them at risk. In addition, prevention strategies must target the factors that elevate the risk for criminal activity (e.g., family violence, parental neglect, difficulties in school, youth unemployment, and poverty).

Exercise

The majority of youth (69%) reported that they exercised three or more times weekly. Exercise promotes mental health as well as physical health and is associated with a positive outlook on life. Young people told us: "I love to play sports. I love to influence people about staying fit and healthy." Kathy, aged 16 years, Newfoundland. "A lot of the kids get a lot of exercise, but they also love junk food. If they could eat healthier and still get the exercise, it would be a lot better for them." Ian, aged 18 years, Ontario.

5-13

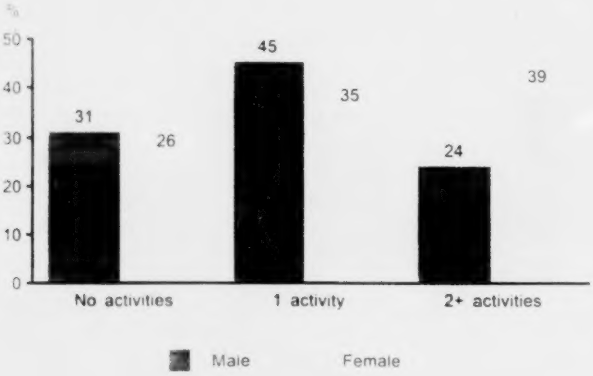
Frequency of Exercise*,
Youth Aged 15-19 Years, by Gender
Canada, 1996-1997



*Exercise includes vigorous activities such as calisthenics, jogging or racquet sports, team sports, dance classes or brisk walking for a period of at least 15 minutes.
Source: Statistics Canada. 1998. *Canada Year Book 1999.*

5-14

Weekly Participation in Extracurricular Activities
Students in Grades 7-12
British Columbia, 1998



Source: The McCreary Centre Society. 1999. *Healthy Connections: Listening to BC Youth. Highlights from the Adolescent Health Survey II.*

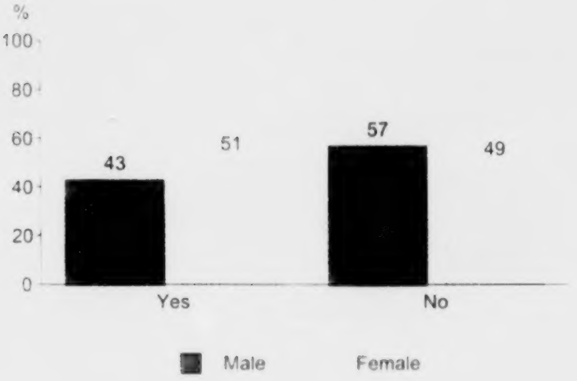
According to the 1998 Adolescent Health Survey, the majority of youth in British Columbia participated in at least one extracurricular activity. A greater proportion of female youth reported participating; female youth were also more likely to report participating in two or more activities. Participation in extracurricular activities may enhance the lives of young people by expanding their social networks, by exposing them to new experiences, or by helping them acquire new skills.

Sexuality and Body Image

According to the NPHS, female youth (51%) were more likely than male youth (43%) to have ever had sexual intercourse. Usually investigated as a risk behaviour, little is known about the healthy sexuality of youth.

5 - 15

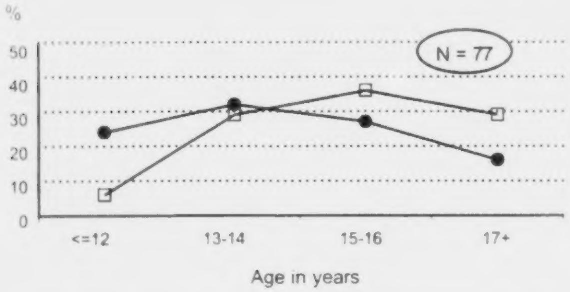
Percentage of Youth Aged 15-19 Years, Who Have Ever Had Sexual Intercourse, by Gender
Canada, 1996-1997



Source: Statistics Canada. *National Population Health Survey, 1996-1997*, CICH using Public Use Microdata Files

5 - 16

Age of "Coming Out" to Yourself and to Others*, by Age Group
British Columbia, 1997



	<=12	13-14	15-16	17+
To others ☐	6	29	36	29
To yourself ●	24	32	27	16

* Of youth who have "come out"
Source: The McCreary Centre Society. 1999. *Being Out. Lesbian, Gay, Bisexual and Transgender Youth in BC: An Adolescent Health Survey*

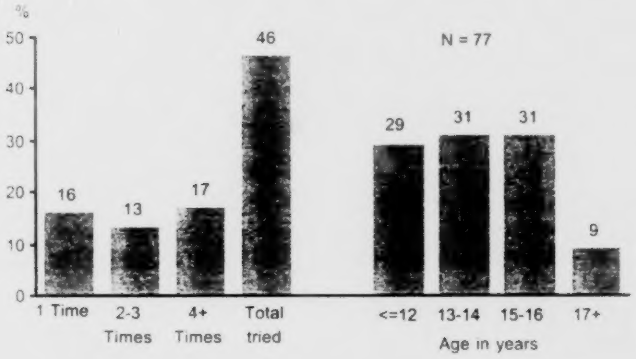
For many lesbian, gay, bisexual and transgender (LGBT) youth, coming to terms with their sexuality is a very stressful experience. Being "out" is far from the norm among adolescents. According to the McCreary Centre Society (1999a), denial and secrecy, accompanied by loneliness and fear of discovery, are common experiences. Youth who have publicly acknowledged their sexual orientation risk rejection and, in some cases, abuse from their families and peers. The majority of the youth in the McCreary Centre Society study, as a consequence of the study's methodology, were "out". 14 years was the average age at which they acknowledged their sexual orientation to themselves. The average age for coming out to others was 15 years.

The McCreary Centre Society (1999a) found that almost half (46%) of the lesbian, gay, bisexual and transgender (LGBT) youth in their study had attempted suicide at least once. 30% had attempted suicide more than once. Feeling lonely and isolated was the most common reason given by the youth for attempting suicide, followed by problems with parents, and worries about their sexual orientation. As with all youth, acceptance by family and peers is crucial to well-being.

5 - 17

Percentage of LGBT* Youth Who Have Attempted Suicide in Lifetime, and Age When First Attempted Suicide**

British Columbia, 1997



*LGBT = Lesbian, Gay, Bisexual and Transgender.

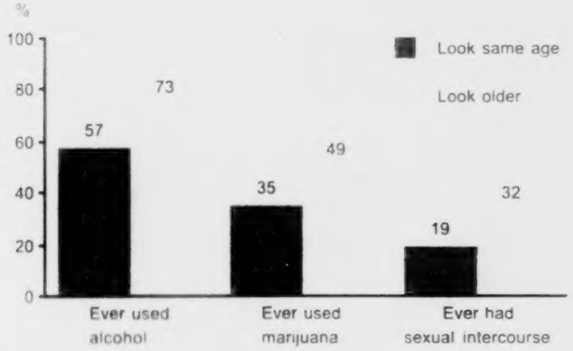
** Of those who have tried.

Source: The McCreary Centre Society. 1999. *Being Out. Lesbian, Gay, Bisexual and Transgender Youth in BC. An Adolescent Health Survey.*

5 - 18

Risk Behaviours of Females, Grades 7-12, Who Think They Look Older Than Their Peers

British Columbia, 1998



Source: The McCreary Centre Society. 1999. *Healthy Connections: Listening to BC Youth: Highlights from the Adolescent Health Survey II.*

According to the McCreary Centre Society Adolescent Health Survey II, female youth who think they look older than their peers are more likely to engage in some risk behaviours. For example, they were more likely than their female peers to report having used alcohol or marijuana, and to report having engaged in sexual intercourse.

Although eating disorders affect female and male children and youth, young women are at particular risk. Research estimates that 1 - 2% of females aged 14 - 25 years develop anorexia nervosa and 3 - 5% develop bulimia. Researchers have identified an eating disorder "pyramid" for female youth (Friedman, 1997). At the bottom of the pyramid are those who "feel fat." At the 2nd level are those who are preoccupied with their weight. The 3rd level includes those who fast, binge, and/or purge. At the 4th level are those with eating disorders. The 5th and 6th levels represent different degrees of medical risk. The underlying causes of eating disorders are complex. Supporting the resilience of girls throughout the life cycle is an important prevention strategy.

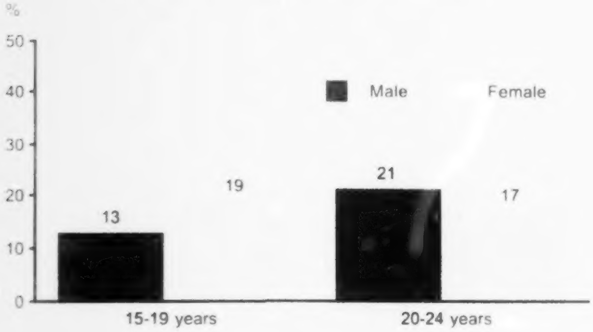
5 - 19

Eating Disorders

5 - 20

Percentage of Sexually Active* 15-24 Year Olds, Who Had Two or More Sex Partners and Condom Non-use in Past Year, by Age and Gender

Canada, Excluding Territories, 1994-1995



*At least one sex partner in past year.

Note: Excluded from calculations are married, common-law, divorced, or widowed individuals with a single sex partner.

Source: Galambos, N. et al. (Statistics Canada). 1998. Multiple-risk Behaviour in Adolescents and Young Adults. *Health Reports*. Vol 10. No 2.

Risk Behaviours

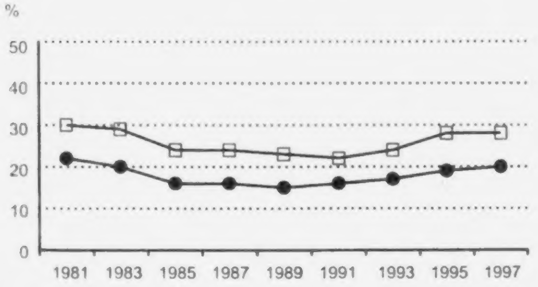
A significant minority of young people have multiple sex partners and do not use condoms regularly, risk factors for infection with sexually transmitted diseases (STDs). Although some STDs are easily treated and need have few long-term consequences with appropriate and timely treatment, others have lasting health effects. Gonorrhea is a relatively easy infection to cure that, when treated early, has no permanent health consequences. Chlamydia is more difficult to identify and cure, and can increase the risk of infertility. Others, such as HIV/AIDS, can be treated symptomatically but not cured, and have serious health implications.

Smoking as a youth increases the likelihood of long-term use of tobacco (Statistics Canada, May 29, 1998). Long-term smoking increases morbidity and mortality from a wide range of conditions including respiratory disease and heart disease. According to Hobbs (1999), for both past year smoking and daily smoking among youth in Ontario, the rates dropped during the 1980s and then climbed again during the 1990s. There was very little provincial variation in the youth smoking rates (Canadian Centre on Substance Abuse and Centre for Addiction and Mental Health, 1999).

5 - 21

Past Year Smoking and Daily Smoking Among Students In Grades 7, 9, 11 and 13

Ontario, 1981-1997



	1981	1983	1985	1987	1989	1991	1993	1995	1997
Past year smoking ☐	30	29	24	24	23	22	24	28	28
Daily use past year ●	22	20	16	16	15	16	17	19	20

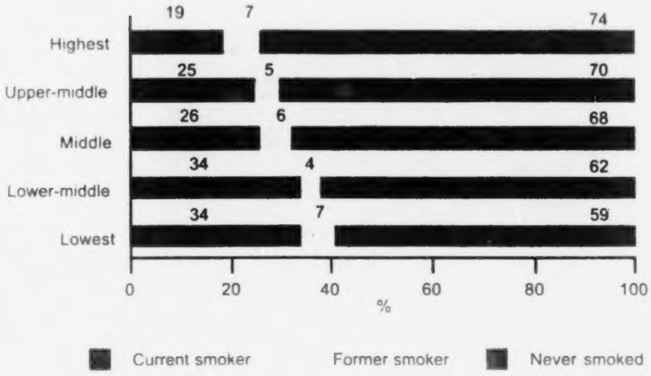
Note. Past year smoking = more than 1 cigarette in past year.

Source: Hobbs, F.M. 1999. Youth Smoking in Ontario 1981-1997: A Cause for Concern. *Canadian Journal of Public Health;* 90(2).

5 - 22

Smoking Status by Income Distribution Quintile, Youth Aged 12-19 Years

British Columbia, 1997



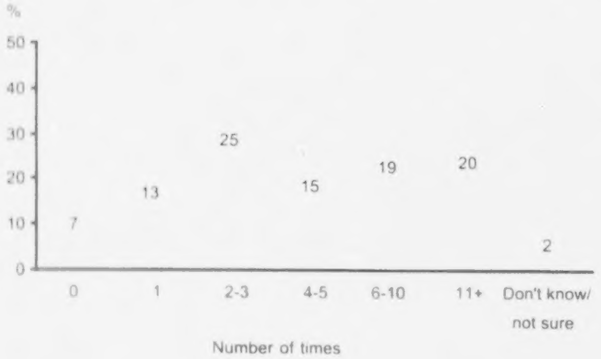
Source: Heart and Stroke Foundation of B.C. and Yukon. 1997. *Smoke Signals: Teen Smoking in BC.*

Youth from lower income families are at an elevated risk for smoking. 34% of B.C. youth from the lowest income quintile were current smokers in 1997 compared with only 19% of B.C. youth from the highest income quintile. Youth from low income families are often surrounded by smokers. Parents, siblings and friends often smoke. Immersed in a social world where smoking is the norm, these youth need access to effective support programs to remain smoke-free or to quit successfully.

According to a recent study in B.C. the majority of youth smokers (aged 12-19 years) have made one or more attempts to quit smoking (Heart and Stroke Foundation, B.C. and Yukon, 1997). Many have made repeated attempts to quit. This research underlines the difficulties inherent in smoking reduction and/or cessation. Smoking may be, for example, a shared activity with peers. Family members may be current smokers. For female smokers, the idea of quitting may raise concerns about weight gain. Youth are often unaware of community programs available to assist them in quitting, highlighting a need for more community outreach.

5 - 23

Quit Attempts in the Past Year Among All Current Tobacco Users, Youth Aged 12-19 Years
British Columbia, 1997

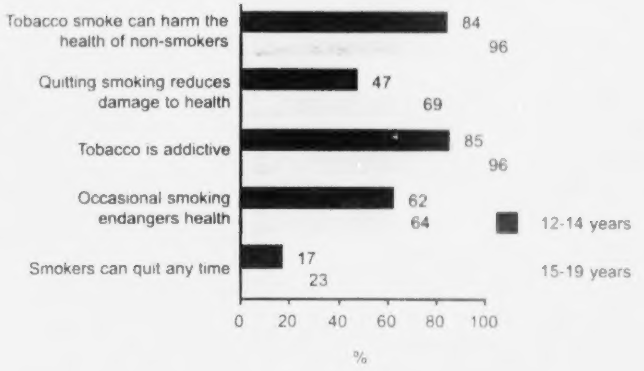


Note: Quit attempt = stopping smoking or using tobacco altogether for at least 24 hours.

Source: Heart and Stroke Foundation of B.C. and Yukon. 1997. *Smoke Signals: Teen Smoking in BC.*

5 - 24

Attitudes/beliefs About Smoking Among Youth Aged 12-14 and 15-19 Years
Canada, 1994



Source: Canadian Centre for Substance Abuse and Centre for Addiction and Mental Health. 1999. *Canadian Profile. Alcohol, Tobacco and Other Drugs, 1999.*

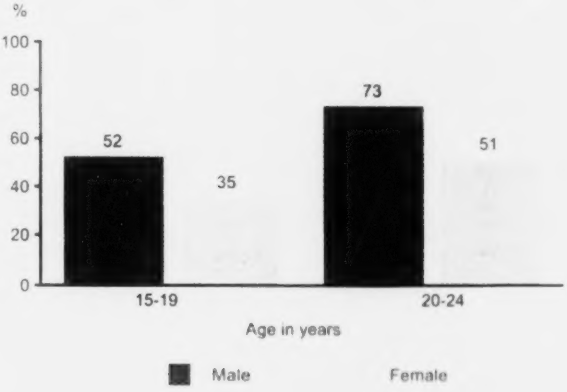
It appears that youth smokers often feel that time is on their side, that they will quit smoking before it damages their health. This undermines the effectiveness of reduction and cessation programs based on "scare tactics." However, in a recent survey, the majority of youth smokers agreed with the statement that tobacco smoke can harm non-smokers. This suggests that prevention strategies focusing on the harm done to others, as well as the risks incurred by the smoker, may be effective with youth (Heart and Stroke Foundation, B.C. and Yukon, 1997).

Youth "binge" drinking is not comparable to adult binge drinking, a pathological mode of behaviour. Instead, it reflects common patterns of socialization and experimentation among young people. The fact that it is often normative does not, however, mean that it is harmless. Drinking to the point of intoxication creates potentially dangerous situations, increasing the chances of injury (via motor vehicle incidents and fights) or infection with a sexually transmitted disease (due to unplanned and unprotected sexual intercourse). In 1995-96, "binge" drinking was common among underage males (52%) and to a lesser extent among underage females (35%). Communities that offer supervised opportunities for youth to socialize with friends may be able to reduce the prevalence and frequency of youth "binge" drinking.

5 - 25

Prevalence of "Binge" Drinking* in Past Year Among Youth Aged 15-24 Years, by Age Group and Gender

Canada, Excluding Territories, 1994-1995



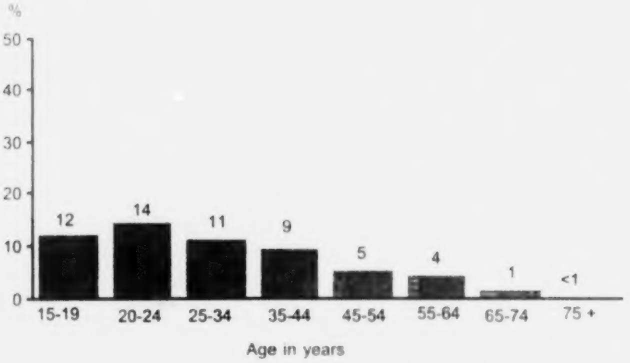
* 5 or more drinks

Source: Galambos, N. et al. (Statistics Canada). 1998. Multiple-risk Behaviour in Adolescents and Young Adults. *Health Reports* Vol.10, No.2.

5 - 26

Frequency of Driving After Drinking*, by Age Group

Canada, 1996-1997



*Drinkers who, at least once in the past year, drove after having consumed two or more drinks in the previous hour.

Source: Canadian Centre on Substance Abuse and Centre for Addiction and Mental Health. 1999. *Canadian Profile. Alcohol, Tobacco and Other Drugs, 1999.*

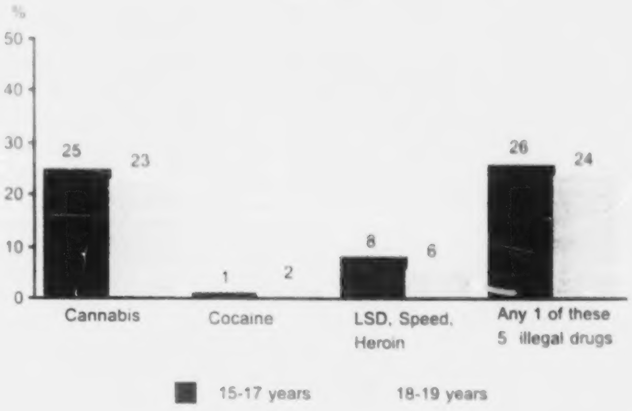
Motor vehicle incidents are the leading cause of death for youth aged 15-19 years and alcohol is often a contributing factor. In a 1996-97 survey, youth drinkers aged 15-19 years reported a higher rate of drinking and driving than drinkers from any other age group with the exception of 20-24 year olds. According to the 1996 Revised Uniform Crime Reporting Survey, youth may be less likely to be repeat offenders. Still, the problem is severe: according to Mayhew et al (1999), 40% of teenage drivers killed in traffic collisions in 1997 had been drinking. Many programs exist through which youth are actively grappling with the problem of drinking and driving.

According to the Canadian Profile 1999, in 1994, most youth restricted their experimentation with illegal drugs to cannabis, a physically non-addictive drug. Cannabis use during the teenage years, although not healthy, does not generally lead to a lifelong pattern of drug abuse. A small but worrisome proportion of youth experiment with other illegal drugs such as cocaine, heroin, speed and LSD. These addictive drugs represent an extremely serious threat to health and well-being. Recent surveys of student drug use in Ontario and Nova Scotia have indicated that the use of a wide range of drugs increased during the 1990s (Addiction Research Foundation, 1997; the Nova Scotia Department of Health and Dalhousie University, 1998).

5 - 27

Percentage of Respondents Who Used Drugs in the Past Year, by Age Group and Drug Type

Canada, 1994



Source: Canadian Centre on Substance Abuse and Centre for Addiction and Mental Health. 1999. *Canadian Profile. Alcohol, Tobacco and Other Drugs, 1999.*

5 - 28

Percentage of Students Who Have Had Someone Suggest They Use Drugs to Improve Their Athletic Performance

Québec, 1998

	Yes (N = 2,123)	Coach*	Teammate*	Friend*
Boys (Yrs)				
11-13	7%	8%	19%	35%
14-15	15%	13%	17%	32%
16+	25%	14%	27%	39%
Girls (Yrs)				
11-13	7%	4%	13%	47%
14-15	11%	4%	15%	48%
16+	13%	9%	18%	52%

* Percentage of the "yes" group.

Note: Respondents could indicate more than one person.

Source: Royal Canadian Mounted Police. 1998. *Young People's Attitudes Towards Doping in Sport. Final Report.*

2,123 young athletes in Québec were asked about their attitudes towards performance enhancing drugs (RCMP, 1998). The results of this survey suggest that by 16 years of age, almost 25% of young male athletes and 13% of young female athletes have been encouraged to use these substances by someone. For the young athletes age 16 years and older who answered "yes", friends were most commonly indicated as the source of the encouragement. However, 14% of the boys aged 16 years and older who answered "yes" reported that their coach had suggested that they use a performance enhancing drug. This is a matter of grave concern because these drugs are dangerous to the short- and long-term health of young people.

"Street Youth" and Sexually Exploited Youth

Youth who live primarily on the street and sexually exploited youth lead lives characterized by an elevated risk of physical, psychological and emotional harm. According to Caputo, T. and Kelly, K. (1998: 403), these youth need a wide range of supports, including: contact with caring adults, personal and (sometimes) family counselling, appropriate social and recreational opportunities, targeted educational/ employment training programs, accessible, consistent, and integrated programs, delivered at times and in places appropriate to the population.

5 - 29

Street Youth and Sexually Exploited Youth

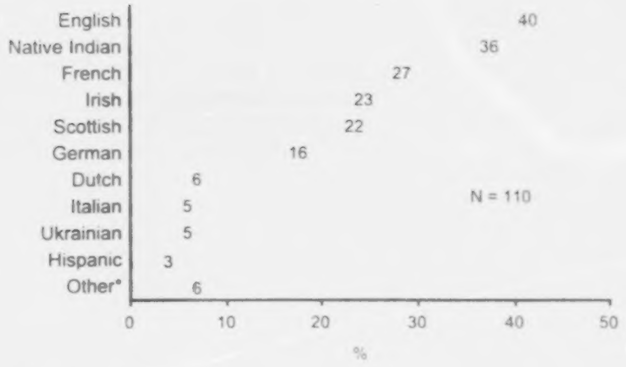
- The Adolescent Health Survey (AHS) was developed by the McCreary Centre Society (MCS) to investigate the health of youth in British Columbia. In 1992, it was administered to 15,549 students in grades 7-12.
- In 1993, MCS administered the AHS to a convenience sample of 110 street youth, all under the age of 19 years. The responses of the street youth were compared with the responses of the students.
- In 1997, MCS administered a modified version of the AHS to 44 sexually exploited youth in Kamloops, Kelowna, Nanaimo and Prince George (1997). Questions from The 1996 Capital Region District Sexually Exploited Youth Committee Survey (CRD) were included to permit comparisons between the two samples of sexually exploited youth. The responses of the sexually exploited youth were compared with those of the students.

Source: The McCreary Centre Society. 1994. *Adolescent Health Survey: Street Youth in Vancouver.*
The McCreary Centre Society. 1999. *Our Kids Too. Sexually Exploited Youth in British Columbia: An Adolescent Survey.*

5 - 30

Percent of Street Youth, by Ethnicity

Vancouver, 1993

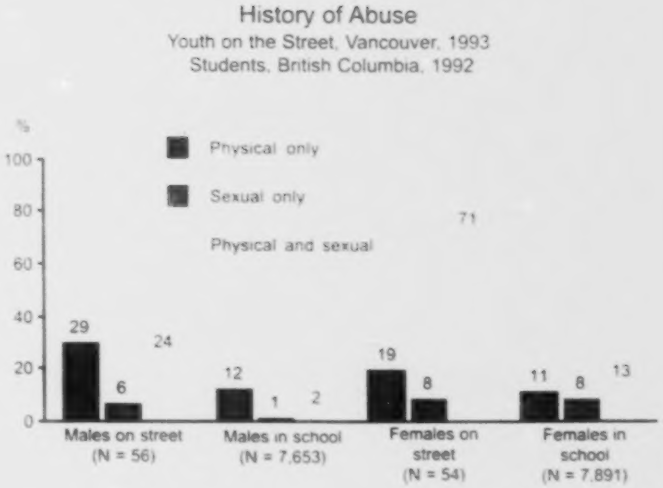


*Other = Polish, Greek, Vietnamese.
Note: More than one ethnic group could be indicated. 12% did not report belonging to any ethnic group.
Source: The McCreary Centre Society. 1994. *Adolescent Health Survey: Street Youth in Vancouver.*

According to a survey conducted by the McCreary Centre Society in 1993, youth with a "Native Indian" identity are over-represented in the street youth population in Vancouver. Although "Native Indians" accounted for 4% of the B.C. student population in 1992, they accounted for 36% of the street youth population in 1993 (McCreary Centre Society, 1994b). Evidence suggests that this situation may also be true in Winnipeg, Saskatoon, Toronto and other cities.

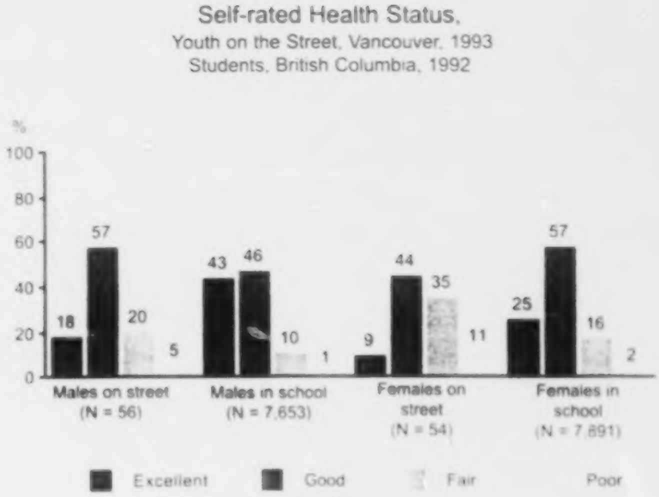
According to the McCreary Centre Society (1994b), street youth in B.C. were more likely than B.C. youth in school to report experiences of abuse. A shocking 98% of female street youth reported having experienced some form of prior abuse. 71% of female street youth reported having experienced both physical and sexual abuse as a child or adolescent. Many male street youth had also experienced some form of prior abuse. Abuse is a contributing factor to the decision to live on the street. It is important to note that abuse was also reported by 32% of female students and 15% of male students.

5-31



Source: The McCreary Centre Society. 1994. *Adolescent Health Survey: Street Youth in Vancouver.*

5-32



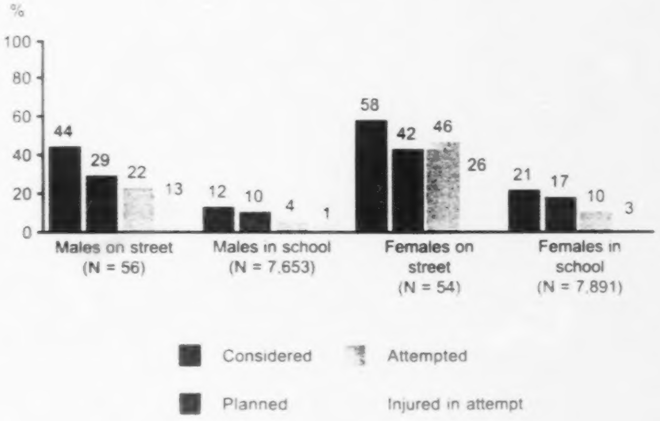
Source: The McCreary Centre Society. 1994. *Adolescent Health Survey: Street Youth in Vancouver.*

18% of male youth on the street in Vancouver reported excellent health compared with 43% of males attending school in B.C. On the other hand, 25% of male youth on the street indicated fair or poor health compared with only 11% of males in school. Similarly, 9% of female youth on the street reported excellent health compared with 25% of females in school. 46% of females on the street reported being in fair or poor health compared with 18% of females attending school. Street youth also reported higher rates of learning disabilities and attention deficit disorder.

Suicide experiences include considering, planning or attempting suicide. Among those who attempt suicide, some incur injuries. According to the McCreary Centre Society (1994b), street youth were more likely to have had suicide experiences than youth in school, and were more likely to have incurred injuries. 44% of male youth on the street had considered suicide compared with 12% of males in school. 58% of female youth on the street had considered suicide compared with 21% of females in school. 46% of female street youth had attempted suicide and 26% had incurred injuries, and 10% of female students had attempted suicide with 3% incurring injuries. These figures argue for a special focus on vulnerable youth populations.

5 - 33

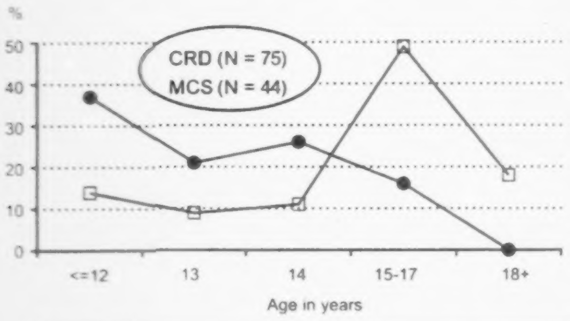
Suicide Experiences in Past Year,
Youth on the Street, Vancouver 1993,
Students, British Columbia, 1992



Source: The McCreary Centre Society. 1994. *Adolescent Health Survey: Street Youth in Vancouver.*

5 - 34

Age When First Traded Sexual Favours,
MCS (1997) and CRD (1996) Surveys, by Age Group
British Columbia



	<=12	13	14	15-17	18+
CRD survey ☐	14	9	11	49	18
MCS survey ●	37	21	26	16	0

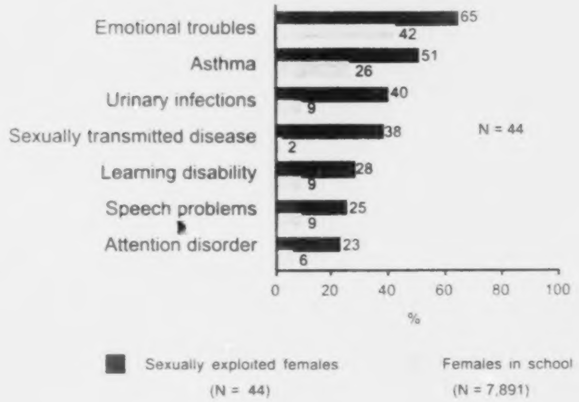
MCS = McCreary Centre Survey; CRD = Victoria survey.
Source: The McCreary Centre Society. 1999. *Our Kids Too. Sexually Exploited Youth in British Columbia: An Adolescent Survey.*

Most of the sexually exploited youth who participated in the McCreary Centre Society survey were not living on the street. Many were still in school and reported liking school. However, like the street youth, the youth who had traded sexual favours had histories filled with difficulty. "Sexual exploitation of youth is not only – or even primarily – about sex. It is about the lives of young people who have already faced many grim realities including abuse, depression, violence and lost opportunity" (McCreary Centre Society, 1999c: 5). The average age of entry into the sex trade for youth in the McCreary Centre Society survey was 13.

According to the McCreary Centre Society (1999c), sexually exploited youth reported higher levels of emotional disorders, asthma, urinary infections, sexually transmitted diseases, learning disabilities and attention deficit. These health problems and disabilities reflect both the life histories of the sexually exploited youth and their current circumstances. Learning and behavioural disabilities are emerging as potentially significant underlying factors behind many high risk youth behaviours.

5 - 35

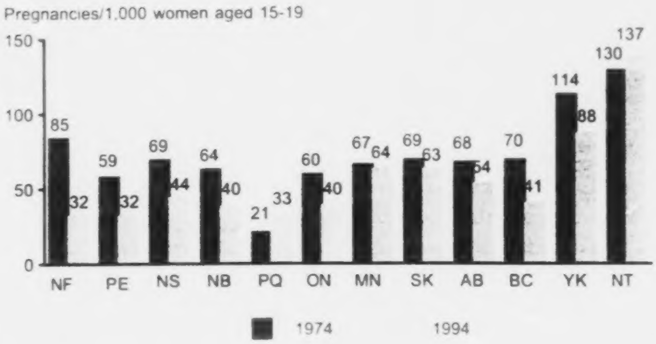
Past and Current Medical Problems, Sexually Exploited Females and Females in School
British Columbia, 1993



Source: The McCreary Centre Society. 1999. *Our Kids Too. Sexually Exploited Youth in British Columbia: An Adolescent Survey.*

5 - 36

Teenage Pregnancy Rate*, Women Aged 15-19 Years
Provinces and Territories, 1974 and 1994



* Total of live birth, abortion and miscarriage/stillbirth rates.
Source: Wadhera, S. et al. (Statistics Canada). 1997. Teenage Pregnancies. *Health Reports.* Vol. 9 No. 3

Health and Well-Being Outcomes

Reproductive Health

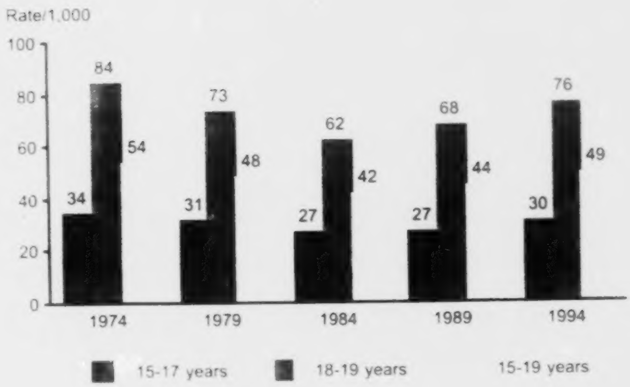
The teen pregnancy rate fell between 1974 and 1994. Yet in 1994 there were almost 47,000 women, aged 15 to 19, who became pregnant. Those who chose abortion faced medical risks and emotional distress. Those who chose to have and raise the baby took on long-term challenges. Stewart (1998) found that young mothers are more likely to be lone-parents than other mothers and they tend to have less education than their peers who are not mothers. Thus, teen mothers and their children are at increased risk of poverty and its associated problems. Given the economic and social challenges they face, some young mothers may be predisposed to abuse and neglect their children.

Although the teen pregnancy rate was lower in 1994 than it was in the 1970s, it was higher than it was in the 1980s. This trend is a cause for concern, given the negative health and well-being implications of teen pregnancy. The rate of teen pregnancy for youth aged 15-17 years was less than the rate for older youth in all years but was still disturbingly high. Stewart (1998) found that there is no comprehensive approach to teen pregnancy prevention in Canada. To be effective, teen pregnancy prevention and reproductive health strategies must be directed at both children and youth. Note: The pregnancy rate includes pregnancies that end in abortion, miscarriage and stillbirth and is, therefore, not representative of the numbers of young women who gave birth during those years.

5-37

Rate of Pregnancies, by Age Group

Canada, 1974, 1979, 1984, 1989, and 1994

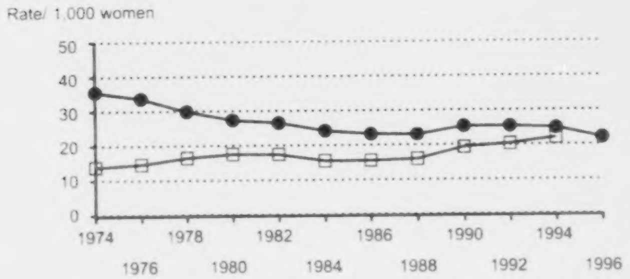


Source: Wadhera, S. et al. (Statistics Canada). 1997. Teenage Pregnancies. *Health Reports*. Vol. 9 No. 3.

5-38

Teen Pregnancy Outcomes, Aged 15-19 Years

Canada, 1974-1996



Live births ●	36	34	30	27	27	24	23	23	25	25	25	22
Abortions □	14	15	17	18	17	16	16	16	19	20	22	N/A

Source: Laboratory Centre for Disease Control. 1999. *Measuring Up: A Health Surveillance Update on Canadian Children and Youth*.

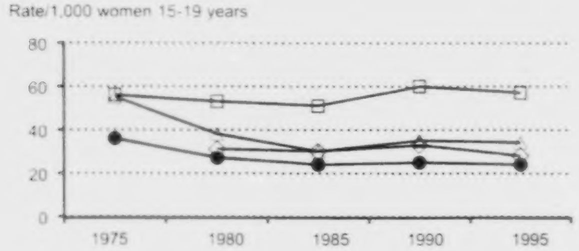
The live birth rate for young women, aged 15-19 years, decreased steadily between 1974 and 1986 and then leveled off, with some fluctuations. On the other hand, the rate of abortion for young women, aged 15-19 years, increased. Research suggests that the majority of teen pregnancies are unplanned or unwanted, a result of failed contraception or the lack of contraception. Stewart (1998) noted that there was a small proportion of young women who wanted to become pregnant. These young women may be looking for love, a sense of purpose and/or a sense of connection with others. Building positive self-esteem in girls is a critical element is pregnancy prevention.

Of the four industrialized countries examined, the rate of live births to teen women, 15-19 years old, was lowest in Canada. The U.S. rate of live births to teenage women has remained consistently high: in 1975 the U.S. rate was 56/1,000 compared to 36/1,000 in Canada and, in 1995, the U.S. rate was 57/1,000 compared to 24/1,000 in Canada.

5 - 39

Live Births to Women Aged 15-19 Years, by Country

1975, 1980, 1985, 1990 and 1995



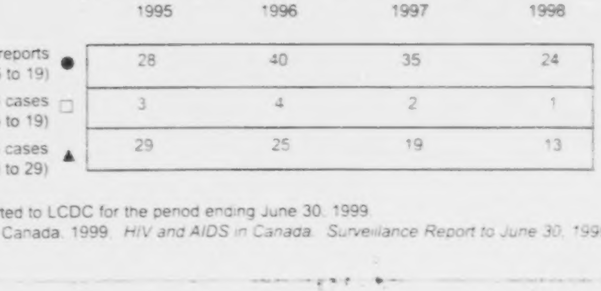
USA ☐	56	53	51	60	57
New Zealand △	55	38	30	35	34
United Kingdom ◇	N/A	31	30	33	28
Canada ●	36	27	24	25	24

Source: S. Cheesbrough. 1999. *A Review of the International Evidence on Preventing and Reducing Teenage Conceptions: The United States, Canada, Australia and New Zealand.* Statistics Canada. 1997. *Births and Deaths 1995.*

5 - 40

Number of Positive HIV Test Reports and Reported AIDS Cases, Youth Aged 15-19 Years and Adults Aged 20-29

Canada, 1995-1998



Postive HIV test reports (15 to 19) ●	28	40	35	24
Reported AIDS cases (15 to 19) ☐	3	4	2	1
Reported AIDS cases (20 to 29) ▲	29	25	19	13

* Last data reported to LCDC for the period ending June 30, 1999.

Source: Health Canada. 1999. *HIV and AIDS in Canada: Surveillance Report to June 30, 1999.*

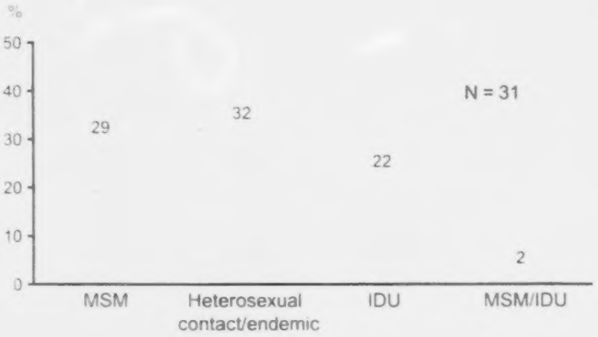
Infection with the Human Immunodeficiency Virus (HIV) represents a serious threat to health and quality of life. Adjusting to the knowledge and lifestyle implications of infection, dealing with the often invasive drug therapies, and coping with the attitudes of others place those who are HIV-positive under enormous strain. Individuals who develop AIDS are very vulnerable to serious infections and certain forms of cancer. According to the Laboratory Centre for Disease Control (1999i: 50), "[a]lthough children and youth currently account for a small proportion of the total number of HIV infections and AIDS cases, they represent an important aspect of the epidemic that must be addressed". The number of reported cases is not the same as the number of HIV infections as many cases go unidentified.

Heterosexual activities account for 32% of HIV cases among youth aged 15-19 years. Male homosexual activities are the next most common route of infection accounting for 29% of cases. Injection drug use accounts for 22% of cases. Infection via intravenous (or injection) drug use is on the rise in Canada. The behaviours of injection drug users are often conducive to spreading the infection. They tend to be highly mobile, moving between urban centres, or moving back and forth between urban centres and remote communities. They also tend to have sexual contact with non-users in these different locations (Federal, Provincial and Territorial Advisory Committee on Population Health, 1999).

5-4-1

Percentage of Positive HIV Test Reports, by Exposure Category*, Youth Aged 15-19 Years

Canada, 1995-1998

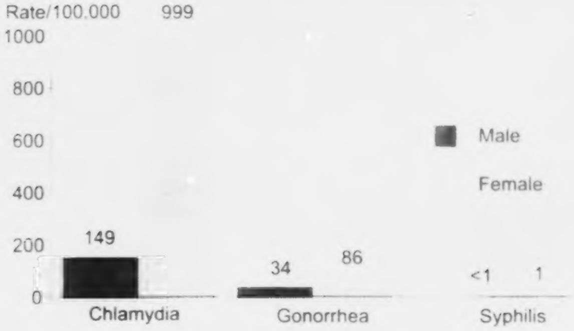


* MSM = Men who have sex with men; IDU = Intravenous Drug Use.
Source: Laboratory Centre for Disease Control, 1999. *Measuring Up: A Health Surveillance Update on Canadian Children and Youth.*

5-4-2

Rate of Sexually Transmitted Diseases, Youth Aged 15-19 Years, by Gender

Canada, 1996



Source: Health Canada. 1999. *Toward a Healthy Future: Second Report on the Health of Canadians.*

Young women are at higher risk than young men for acquiring chlamydia, gonorrhea and syphilis. Chlamydia is the single most prevalent sexually transmitted disease in the youth population. In 1996, although reduced from previous years (1,550/100,000 in 1991), the rate for female youth was high (999/100,000), representing a serious cause for concern. Chlamydia can be successfully treated. However, left untreated or treated too late, chlamydia can have serious and permanent health repercussions for women, including infertility.

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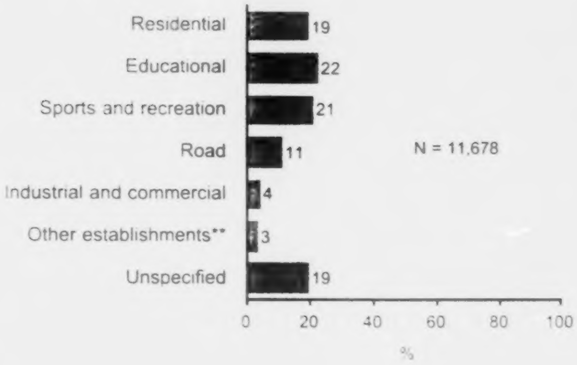
Injuries

The Canadian Hospitals Injury Reporting and Preventing Program (CHIRPP) provides information on injuries treated in the emergency rooms of participating children's hospitals across Canada. Although a substantial proportion of youth injuries occurred in the home (19% or approximately 2,200 injuries) and at school (22% or approximately 2,600 injuries), sports and recreational environments were another major injury location for youth (21% or approximately 2,500 injuries).

5

Injuries by Location, Youth Aged 15-19 Years
Canada*, 1997



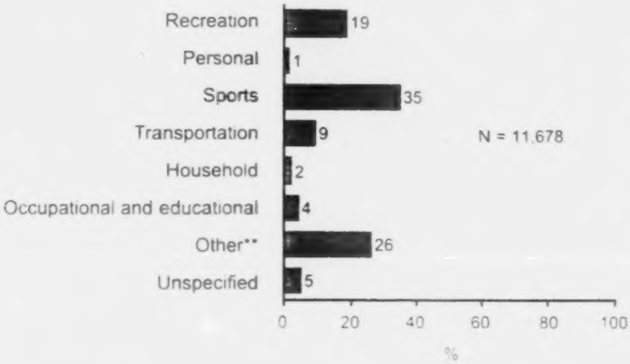
* Cases reported by 15 Canadian hospitals of which 10 are paediatric, participating in CHIRPP

** Includes hospitals.

Source: Special runs conducted for CICH by Health Canada, Bureau of Reproductive and Child Health.

5.44

Injuries by Activity, Youth Aged 15-19 Years
Canada*, 1997



* Cases reported by 15 Canadian hospitals of which 10 are paediatric, participating in CHIRPP

** Includes running, fighting and intentionally hurting oneself.

Source: Special runs for CICH conducted by Health Canada, Bureau of Reproductive and Child Health.

According to CHIRPP, whether at home, school or a sport/recreation facility, youth injuries were most frequently incurred while engaged in a sports activity in 1997 (35% or about 4,100 injuries). It is essential to educate youth, their parents and their coaches about sports safety, and to ensure that safety precautions are a part of all sporting and recreational activities. Note: Injuries seen in emergency departments are a mix of minor and major injuries. Although injuries incurred in traffic collisions represent a relatively small percentage of emergency room injury-related visits, they are more likely to be serious and require hospitalization.

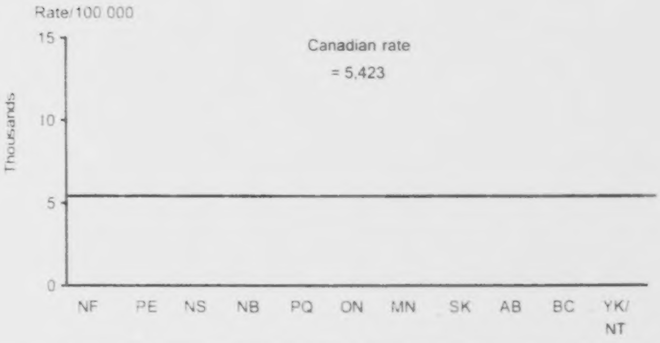
Hospitalization

As with other age groups, the Territories and Saskatchewan have the highest rates of hospitalization for youth. Although differences in the health care system in those provinces and territories may account for some of the variation, some must also be attributed to differences in the health status of the youth themselves.

5 - 4 5

Hospitalization* All Causes, Youth Aged 15-19 Years

Canada, Provinces and Territories, 1996-1997



	NF	PE	NS	NB	PQ	ON	MN	SK	AB	BC	YK/NT
Rate	6,915	7,384	6,323	7,668	4,219	4,804	7,617	8,945	6,624	5,672	9,015

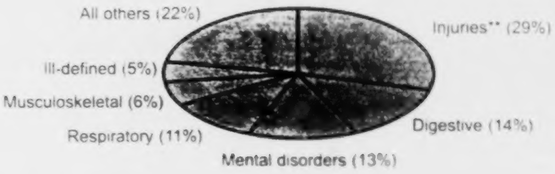
* Includes acute care in-patient hospitalizations only.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

5 - 4 6

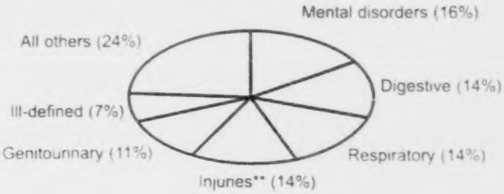
Hospitalization* by Leading Causes, Youth Aged 15-19 Years

Canada, 1996-1997

Males (N=35,329)



Females (N=42,853)



*Includes acute care in-patient hospitalizations only.
**Includes poisonings.
Note: The 31,289 pregnancies were excluded.
Source: Special runs conducted for CICH by the Canadian Institute for Health Information.

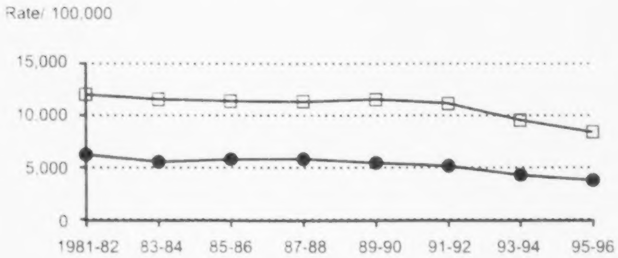
In 1996-97, injuries were the greatest single cause of male hospital admissions (29%), whereas mental disorders were the greatest single cause of non-pregnancy-related female hospital admissions (16%). Mental disorders accounted for 13% of male hospital admissions. It is worth noting that respiratory problems were also an important cause of hospitalization for this age group, accounting for 14% of female hospital admissions and 11% of male hospital admissions.

Hospitalization rates have decreased for both males and females. Some of this decline may be attributable to restructuring in the health care system. Further research is required to interpret the health implications of this trend.

5-47

Hospitalization Rates, Youth Aged 15-19 Years

Canada, Provinces and Territories, 1980-1981 to 1995-1996



	1981-82	83-84	85-86	87-88	89-90	91-92	93-94	95-96
Male ●	6,262	5,575	5,828	5,842	5,487	5,206	4,325	3,805
Female □	12,039	11,577	11,405	11,378	11,565	11,164	9,561	8,429

Note: Includes general and allied special hospitals (e.g. acute, chronic care and rehabilitation).

Source: Hanvey, L. et al. 1994. *The Health of Canada's Children: A CICH Profile, 2nd Edition.*

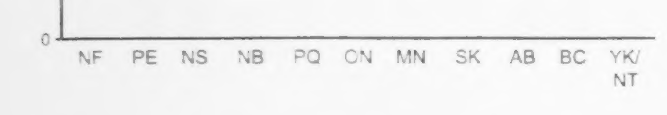
CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

Statistics Canada. Summary findings (see full citation in reference sections).

5-48

Injury Hospitalization Rates, Youth Aged 15-19 Years

Canada, Provinces and Territories, 1996



Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

Injury hospitalization rates by province/territory for youth vary across the country, with substantial difference between the highest and lowest. In 1996, Québec had the lowest injury hospitalization rate at 647/100,000 and Saskatchewan had the highest at 1609/100,000. The national average was 1,011/100,000.

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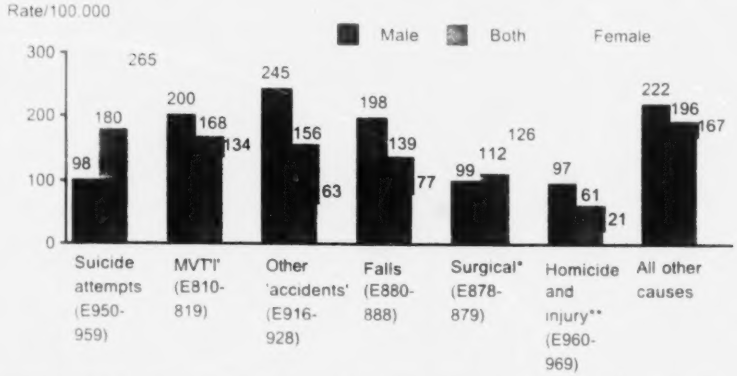
Suicide attempts were a major cause of injury hospitalization in 1996, particularly for female youth. The rate for female youth was more than twice the rate for male youth. The suicide death rate, however, was higher for male youth (see chart 5-54). Motor vehicle traffic injuries were, as in previous years, an important cause of injury hospitalization. The rate was higher for male youth than female youth.

5 - 4 9

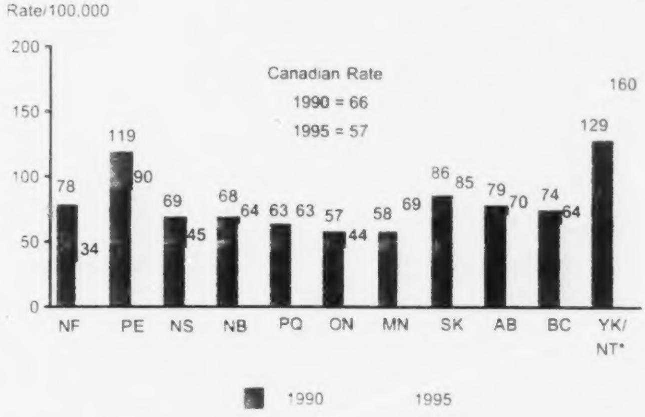
Injury Hospitalization Rates by Leading Cause, Youth Aged 15-19 Years, by Gender
Canada, 1996-1997



*Includes medical procedures as the cause of abnormal reaction of patient or later complication, without mention of misadventure at the time of procedure.
** Injuries purposely inflicted by other persons.
Note: E-codes from the International Classification of Diseases, 1975 Revision, Volume 1; MVT'I' = Motor Vehicle Traffic 'Injuries'
Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data.

5 - 5 0

Death Rates All Causes, Youth Aged 15-19 Years
Canada, Provinces and Territories, 1990 and 1995



* Yukon/Northwest Territories had less than 15 deaths in each Territory.
Source: CICH using data from Statistics Canada, 1997. *Births and Deaths, 1995*

Death

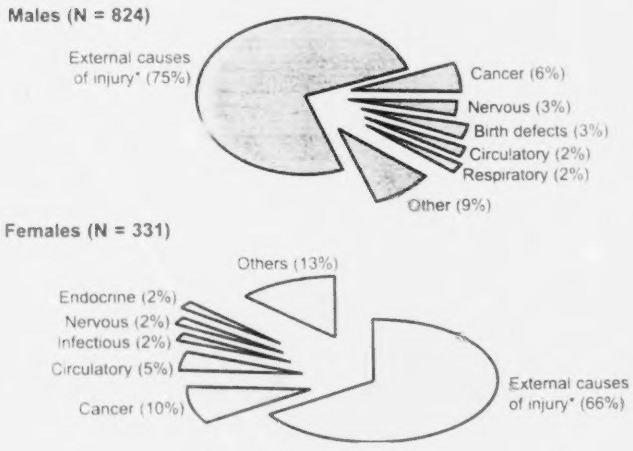
In both 1990 and 1995, there was substantial variation in the death rate for youth aged 15-19 years across Canada. The highest death rate was reported in the Territories in both 1990 and 1995. Among the provinces, the highest death rate was reported in Prince Edward Island in both 1990 and 1995. The death rate fell between 1990 and 1995 in all the provinces except Québec, where it held steady, and Manitoba, where it climbed. The rate for the Territories also increased.

Injuries were the leading cause of death by far for both male (75%) and female youth (66%). 631 male youth and 218 female youth died from injuries in 1996-97. Cancer accounted for 6% of deaths for male youth (50 deaths) and 10% of deaths for female youth (33 deaths).

5 - 51

Leading Causes of Death, Youth Aged 15-19 Years

Canada, 1996-1997



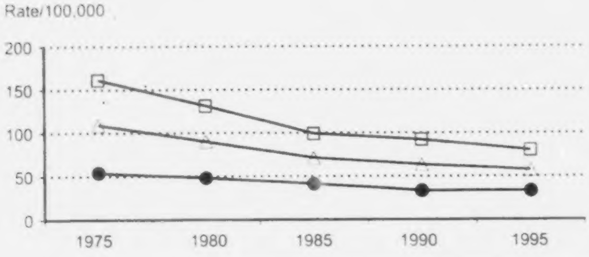
* Includes poisonings and self-inflicted injuries.

Source: Statistics Canada. 1997. *Leading Causes of Death at Different Ages, Canada, 1997.* Shelf Tables.

5 - 52

Death Rates All Causes, Youth Aged 15-19 Years

Canada, 1975, 1980, 1985, 1990 and 1995



	1975	1980	1985	1990	1995
Male ☐	161	131	99	92	80
Both △	109	90	71	63	57
Female ●	54	48	41	33	33

Source: CICH using Statistics Canada data. 1997. *Births and Deaths, 1995.*

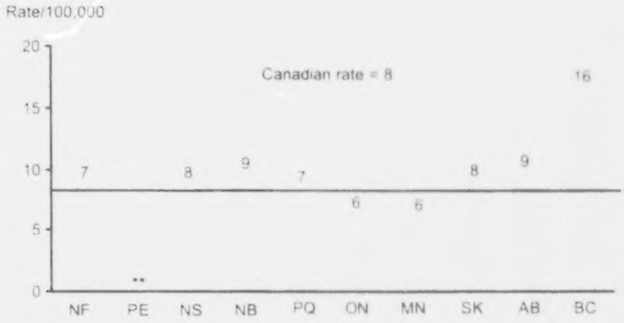
Since 1975, the death rate has declined for both male and female youth. The gender gap narrowed somewhat between 1975 and 1995, but continued to be substantial.

Injury death rates for youth aged 15-19 years were similar across the provinces, with the exception of British Columbia, with an injury death rate twice the national average, and Prince Edward Island, with an injury death rate too low to report.

5 - 53

Injury Death* Rates, Youth Aged 15-19 Years

Canada, Provinces and Territories, 1994-1996 (3-year Rate)



* Deaths occurring in hospital only

** Numbers too small to report

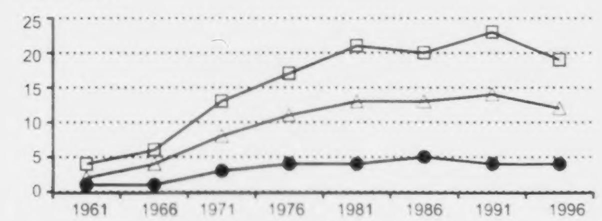
Note: Due to small number of deaths in this age group, the rate has been calculated based on deaths over a three year period

Source: CICH using Canadian Institute for Health Information data and Statistics Canada Census data

5 - 54

Suicide Rates For Youth, Youth Aged 15-19 Years

Canada, 1961-1996



Male □	4	6	13	17	21	20	23	19
Both △	2	4	8	11	13	13	14	12
Female ●	1	1	3	4	4	5	4	4

Source: Hanvey, L. et al. 1994. *The Health of Canada's Children: A CICH Profile, 2nd Edition.*
Statistics Canada. 1999. Canada Year Book 1999 on CD-Rom.

Suicide death rates for male youth climbed dramatically between 1961 and 1991. In fact, the rate in 1991 was nearly six times the rate in 1961. Between 1991 and 1996, however, the rate decreased. The suicide death rate for female youth has remained stable at about 4/100,000 since 1976. It is important to remember that suicide death rates only capture completed suicides. This chart shows that the rate of completed suicide was higher for males than females. On the other hand, female youth were hospitalized for suicide attempts at a significantly higher rate than male youth (see chart 5-49). The male completion rate and the female hospitalization rate are both causes of deep concern.

Youth in Canada

By Dr. Roger Tonkin

Youth in Canada are hardly an endangered species. They live in one of the world's most favoured countries and are protected under the UN Convention of the Rights of the Child. Overall, their health is excellent and mortality rates among adolescents in Canada have declined substantially. But are these advances a function of good design or good luck? This report gives us some of the data needed to answer that question.

The youth population in Canada has declined in numbers. As a proportion of total population, it continues to decline. This should make it easier for our health care system to address the needs of what is, essentially, the healthiest of age groups. But it doesn't excuse us to ignore their needs in favour of other pressures on our system. We should be pleased that most adolescents exercise, try to keep themselves fit and desire to be at a healthy weight. In this report, we learn that positive lifestyle practices are not without risk. Adolescent injuries remain a common problem and a frequent source of hospitalization, especially among males. Most of those injuries occur during sports and recreational activities and these same environments expose adolescents to negative influences (e.g. the use of performance enhancing, illegal drugs). Addressing the risks as well as promoting the benefits of a healthy lifestyle in adolescence must become a national research priority.

Indicators such as youth crime, teen pregnancy and adolescent mortality rates reflect improvement in the status of youth but important regional and interprovincial differences exist. Teen pregnancy rates have dropped in every province but Québec. Yet, the Québec teen pregnancy rate remains lower than for most regions, especially the territories. What are the reasons for these differences? Do where you live, your family background and other determinants of youth health matter? Visible minorities comprise 13% of the youth population but little data are provided on the impact of ethnicity and visible minority status on adolescent health. We do learn that immigrant youth are less likely to have had paid employment than non-immigrant youth, but is this health enhancing or health compromising? This lack of solid national data on determinants of youth remains a concern.

The reported age and gender related changes in self-care practices and risky behaviours such as smoking, binge drinking and number of sexual partners are predictable concomitants of normal adolescent development. Adolescent smoking rates are about where they were 20 years ago. If we are to change adolescent smoking patterns, we must know more about the significance of the early onset of risky behaviours in adolescence. The data does not tell us if we are missing important early intervention opportunities in adolescence. What should we understand about the impact of gender or the interplay of early (or late) physical maturation? The large proportion of sexually active youth who fail to use condoms remains a challenge in the fight against HIV and STDs. Why does condom use not rise more dramatically with age and increasing sexual experience?

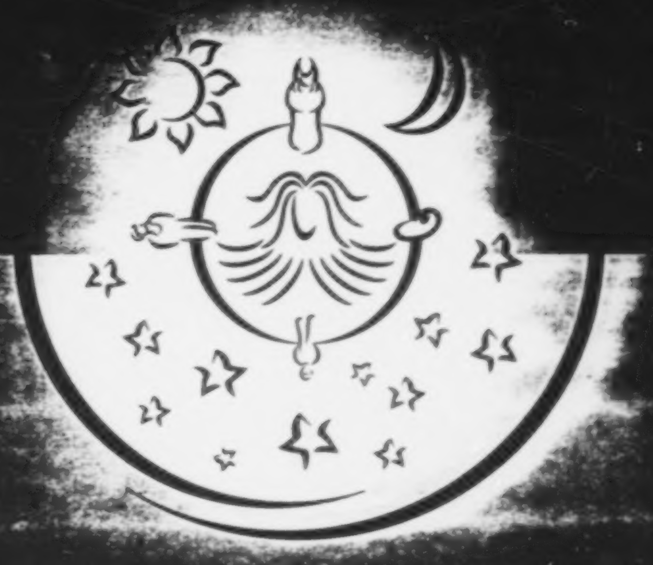
We can take comfort in the news of overall improvements in youth health in Canada. The data should also challenge us to think of the vulnerable sub-groups among our youth. The street youth and the gay-lesbian data eloquently illustrate the high risks that these youth can face. When one thinks of other vulnerable sub-groups, such as youth with chronic conditions, those who are physically or mentally challenged, aboriginal youth, youth of cultural diversity, rural youth and disadvantaged youth, one begins to realize that for many in Canada the safe passage through adolescence remains a challenge. Our country might do more for its youth by beginning the next millennium with a clearly stated National Youth Agenda that embraces the challenges outlined in this report and promises to create the opportunities that are the right of all of our youth.

Dr. Roger Tonkin is a pediatrician with a special interest in youth health. A Professor Emeritus in the Department of Pediatrics, University of British Columbia, he is also Executive Director of the McCreary Centre Society, Burnaby, B.C., responsible for the systematic gathering of population-based data on adolescent health.

CHAPTER SIX

Chapter 6

Aboriginal Children & Youth



Vision Statement

Our Aboriginal children and youth are Sacred Gifts and our hope for the future.

All Aboriginal children see, hear, feel, smell, taste and sense the world of yesterday, today and tomorrow.

Our children continue the Circle of Life when they enter the Eastern Door. With this lies the responsibility to continue along the circle into youthhood, adulthood and becoming Elders. It is up to us as parents to guide them along this path to ensure and secure the future generations. Healthy babies grow up to become healthy youth, adults and Elders.

Our children are innocent. They give us unconditional love, teachings and strength no matter where and in what conditions they live. They are the future parents of those as yet unborn. Also, they are our future leaders, cultural carriers, spiritual Elders and hope as we enter into a new millennium.

These are important responsibilities for our children and youth. In order for them to carry us into the next generation, it is our responsibility to give them unconditional love, respect, honour, nurturing, support, strength and cultural identity, with us as parents guiding them. How we act today will affect the Seventh Generation that lies ahead.

With this, our communities will be re-united and strengthened, on the path to healing. Survival of our Nations depends on our children and youth.

Prepared by Ms. Ginette Thivierge, based on Round Table discussions.

The Health and Well-Being of Aboriginal Children & Youth

by Mr. Schuyler T. Webster

Canada's Aboriginal populations, which include First Nations, Métis, and Inuit cultures, more often equate the health goals of their communities with self-government. It is within this movement that advancing the health status of Aboriginal children is being championed and where progress can more meaningfully be measured. As Aboriginal communities build toward self-government, promoting health policies and programs that reflect the needs of their communities will become critical for future generations. Reversing a history of dependency and poverty for a future based upon independence and empowerment requires, among other resources, research that accurately portrays the health needs of Aboriginal communities.

Aboriginal peoples are exerting more influence in the development of health policies that promote pragmatic solutions in meeting their immediate and long-term health goals. Federal, provincial, and other public and private research authorities must continue to explore ways in which joint research endeavours contribute to building the capacity of Aboriginal communities to conduct their own social policy research. Creative and innovative solutions that address the complex health problems of Aboriginal children and youth can be of benefit to communities only if the vision for change is viewed within the context self-determination.

The emerging Aboriginal health care system can only be understood in relation to its traditional culture. The principle underlying healing is represented by a holistic spiritual approach to health. The healing process is embedded in the belief that disease and illness are the result of a lack of harmony or balance between the physical, emotional, mental and spiritual elements of the human experience. Traditional healing approaches persist in Aboriginal cultures and are enjoying a renewed resurgence throughout many communities.

Today, there exists evidence to suggest that health planning can be successful when collaborative partnerships involve traditional and western medical systems in the implementation of services. Sensitizing western medical systems towards the importance of examining human health within the context of Aboriginal cultures is critical if more effective and culturally relevant health strategies are to benefit Aboriginal children and youth.

Aboriginal populations are in the process of a demographic transition. The rapid social change from a traditional society to a modernized society has implications for understanding the health status of children and youth. Within the context of rapid social change, acculturation and general life stress increase. The gradual change from high rates of infectious disease to high rates of behaviour-related problems characterize this transition. The result being, that rapid social change results in new forms of health risks which may be more difficult to address using conventional health strategies.

The information contained in this chapter captures some important historic, geographic and demographic perspectives that illustrate patterns and trends found in the health status of First Nations children and youth. It is important that recent data be covered here for two reasons. First, demographic and epidemiologic information contribute to expanding the profiles about the health status of Aboriginal children and youth. Second, current surveillance systems used to gather data need to be examined within the context of tribal, cultural and community differences. Thus, the data which follow are relevant for current and topical considerations of both the health needs and prevention possibilities for First Nations children and youth.

The literature on Aboriginal health research relies primarily upon two sources: first, knowledge derived from the health delivery system, and second, current research studies. Both sources exhibit certain strengths and weaknesses when applied to understanding the health status of Aboriginal children and youth. Perhaps the most distressing observation is the lack of a comprehensive surveillance system with which to analyze community-based demographic and epidemiologic patterns and trends.

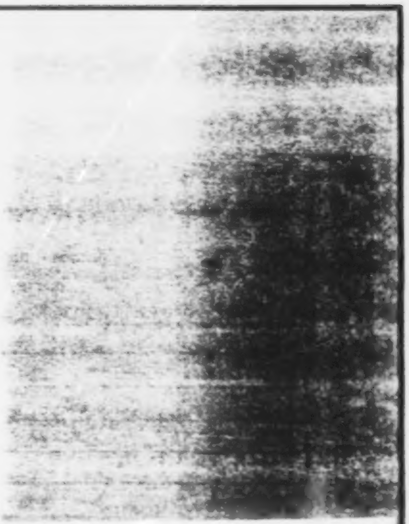
The existing national health surveillance systems often under-represent particular subgroups where health problems and needs exist at an alarmingly high level. Health problems vary in a number of ways: by tribe, geographic location, level of social organization, and living conditions. While improvements to this lack of inclusion are progressing slowly, the urgency to formulate health policies that target Aboriginal children and youth reflect a growing interest that intervention resources keep pace with the reported increase in problems being experienced by this most vulnerable of populations.

While much change has occurred, the general health status of Canada's Aboriginal population ranks below the national standards for all other populations. High rates of birth, dependency, poverty, unemployment, low education levels, poor housing and other environmental conditions exacerbate the health risks for children and youth. None of these indicators is easily solved or prevented. However, there is a renewed interest in capitalizing on proven and effective models of community-based programing to guide the development of health promotion and disease prevention. Programs such as the Aboriginal Head Start and the Community Action Program for Children have demonstrated promising outcomes in early childhood development. A strong local focus, services that are accessible, and a belief that early intervention need not replace or destroy existing strengths in the community, but rather works to support and strengthen community participation are the foundation of these effective service models.

Increased efforts are being made to address the current gaps in the health care surveillance system. The development of Aboriginal-based research initiatives such as the First Nations and Inuit Regional Health Survey and the efforts of the Canadian Institute of Child Health to include pertinent data for this publication signify a new direction in research with Aboriginal people.

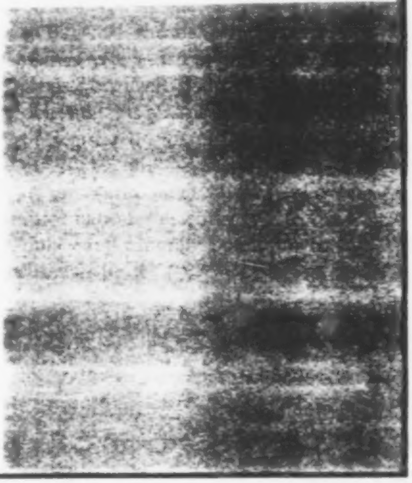
It is hoped that the information presented in the chapter can inform and stimulate discussion that contributes to improving the health status of Aboriginal children and youth.

Schuyler Thomas Webster (Oneida-Menominee) has a Masters degree in Social Work from the University of Wisconsin. He has over 24 years of experience working in a variety of Aboriginal-based service settings. Since 1990, he has been a professor in the Native Human Services (Social Work) program at Laurentian University in Sudbury, Ontario. He is also the editor of the Native Social Work Journal.



"I have a positive point of view when it comes to health in my community. It's pretty good, and when issues are identified, the community tries to do something about them."

Anna, 27 years,
Nunavut



> “Give us a chance and we’ll show you what we’re capable of. Seriously, you’ll be amazed what can happen when you put your doubts aside and replace them with trust.”
>
> **Qajaaq, aged 22 years, Nunavut.**

How to Read this Chapter

Language

This chapter compiles and presents data gleaned from secondary sources. The language used in the secondary sources has been preserved in our charts to avoid any possible misrepresentation of the information. Whenever possible, a brief explanation of the various terms has been included in the text that accompanies the charts. More detailed definitions of key terms are found in the glossary at the end of the chapter. Every effort has been made to employ appropriate language.

Organization of the Chapter

The chapter is organized into four broad categories:

- Population
- Fertility and birth
- Infancy, childhood and adolescence, and
- Mortality

Within each category, determinants of health and health outcomes are examined (although there are insufficient data available in Canada to look systematically at determinants and outcomes in relation to each other). As indicated in the previous section, both determinants and outcomes are best understood within an historical context that recognizes the social, economic, political and cultural factors that have contributed to them. This chapter includes trend information to highlight the improvements that have been made in many areas of health and well-being and to emphasize the importance of seeing Aboriginal Peoples and their communities as being in a state of transition.

Counting Aboriginal People

Mapping and counting Aboriginal Peoples must be recognized as a complex and fluid process, mirroring a dynamic reality. Many different perspectives between and among Aboriginal Peoples need to be voiced. Data sources specify categories and definitions and prioritize certain voices. The reader must remember that reality is more fluid and less clearly defined than statistics tend to make it appear. The statistics that are presented in this chapter tell part of an important story, but they cannot tell the whole story.

Aboriginal Peoples are the original or indigenous occupants of North America and their descendants. They are a very heterogeneous group, including many distinct heritages. Three broad categories of Aboriginal people can be identified: First Nations, Inuit and Métis. The term “Indian”, used in many governmental reports, refers to First Nations persons. Indians can be described as registered or non-registered, status or non-status, treaty or non-treaty. These terms are used interchangeably. The governmental data used in this document generally refer to Registered Indians. The vital statistics on Registered Indians are more comprehensive than the vital statistics on people with Aboriginal identity who are not Registered Indians.

At one time, Aboriginal women who married non-Aboriginal men lost their status. In other words, they were removed from the Indian Registry. With the passing of Bill C-31, a 1985 amendment to the Indian Act, these women regained their status. The amendment also made it possible for their children to apply for Registered Indian status. The Bill also allowed first generation descendants of persons who lost status because they joined the clergy or the armed forces, completed university, voted in a federal election, or went abroad for five years to apply for status. Following the ammendment of the Act, many names were added to the Indian Registry. Registered Indian status does not automatically ensure band status. Band membership is important, linking people to their land base and, thus, their culture.

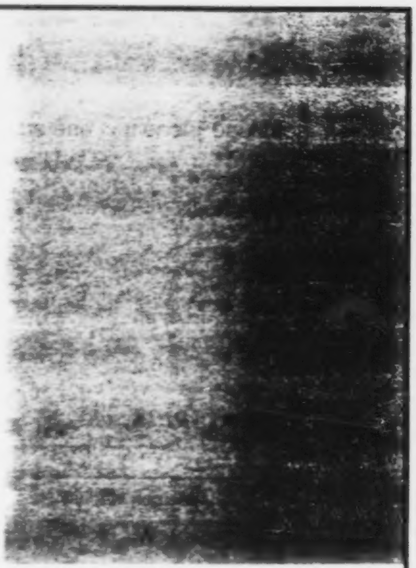
Aboriginal Peoples live in all provinces and territories, on reserves and off reserves, in urban, rural and remote communities. These factors all influence who gets counted and who does not. Generally speaking, Aboriginal Peoples living on-reserve are more likely to be counted than Aboriginal Peoples living off-reserve. An accurate and comprehensive census of Aboriginal Peoples is a prerequisite to the effective measuring and monitoring of the health of Aboriginal children and youth.

This document relies on secondary sources. Most often, the data we found compared the health and well-being of different Aboriginal Peoples with that of the national population in Canada, inclusive of the Aboriginal population. Many of the organizations and individuals with whom we consulted indicated that comparisons between Aboriginal Peoples would be very useful, potentially more useful than comparisons with the national population. The Regional Health Surveys make possible comparisons between regions, an important contribution to the measuring and monitoring of the health and well-being of First Nations and Inuit children and youth.

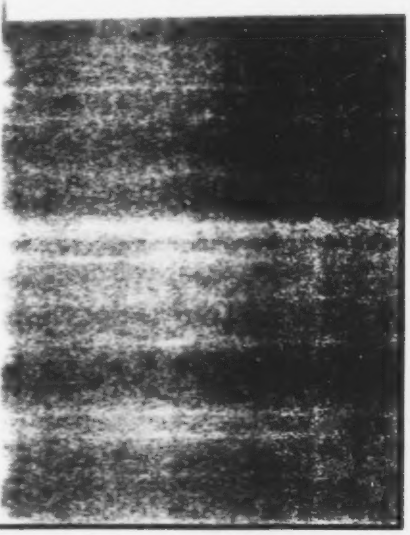
The Census

Counting Aboriginal Peoples in Canada has proven to be an extremely difficult task. In general, the Census is the vehicle through which the people living in Canada are enumerated. Aboriginal Peoples, however, are under-represented by the Census. Further, data from the 1991 Census and the 1996 Census are not comparable because each asked a different question. The 1991 Census asked people about their ethnic origin or ancestry. It estimated that 1,002,675 people with Aboriginal ancestry were living in Canada. The 1996 Census asked people to identify themselves as an Aboriginal person. According to its findings, 799,010 people with Aboriginal identity are living in Canada. According to the Aboriginal organizations that we consulted, neither of these counts is accurate. Certainly, the number estimated based on the 1996 Census is considered low. Under-representation can be attributed to:

- the exclusion of some reserves and northern outpost camps from the enumeration process;
- the small size of the Aboriginal population and the resulting difficulty in adequately representing them through a census of households;
- the exclusion of Aboriginal persons living in rooming houses, boarding houses, institutions and other similar places at the time of the Census;
- the exclusion of Aboriginal persons who were homeless or living in shelters at the time of the Census;
- the decision on the part of some Aboriginal persons not to identify themselves as such to Census takers;
- the decision on the part of some Aboriginal persons not to complete the Census.



> ***“Children and youth who are Registered Indians yet have no band membership are the nomads of our time. They have no land base to call home.”***
>
> **Madeleine Dion Stout**



Accurate population counts are an important first step toward accurately measuring and monitoring the health and well-being of Aboriginal children and youth. Because of its real limitations, Census data on Aboriginal Peoples have been used minimally in this edition of *The CICH Profile.*

> ***"We need more people who care about what's happening to us."***
>
> **Afton, aged 16 years, East Vancouver.**

The Department of Indian and Northern Affairs and Medical Services Branch of Health Canada

The Department of Indian and Northern Affairs (DIAND) monitors the Registered Indian or "First Nations" population. It is responsible for tracking the vital statistics of all those whose names appear on the Indian Registry. It also collects and presents data on social and economic indicators. Registered Indians are found in all regions of the country. In 1998, there were 642,414 Registered Indians in Canada, 375,727 living on-reserve and 266,687 living off-reserve. Statistical information from DIAND contributes substantially to this chapter. (The name Indian and Northern Affairs Canada or INAC is sometimes used).

Among other activities, the Medical Services Branch of Health Canada (MSB) monitors the health of First Nations and Inuit peoples to identify trends and emerging issues and to facilitate program design, implementation and evaluation. As part of its health surveillance activities, MSB maintains a Registered Indian and Inuit mortality database that tracks trends in mortality. This chapter draws on data from the mortality database to highlight positive trends in the life expectancy of Registered Indians.

National Surveys

Longitudinal surveys such as the National Population Health Survey (NPHS) and the National Longitudinal Survey of Children and Youth (NLSCY) specifically exclude First Nations people living on-reserve and Inuit communities in the provinces. Although Aboriginal peoples living off-reserve may be selected randomly in these national surveys, the resulting Aboriginal sub-samples are generally too small to produce reliable information about First Nations, Inuit and Métis people.

The First Nations and Inuit Regional Health Survey (FNIRHS)

The First Nations and Inuit Regional Health Survey is a broad-based survey of First Nations and Inuit children, youth and adults. Some of its questions approximate those of the NLSCY, allowing comparisons. The FNIRHS was designed, implemented and analyzed by First Nations and Inuit people. With a response rate of 95%, the FNIRHS clearly overcomes some of the barriers to full representation noted for the Census and other data sources. The FNIRHS contributes to the development of regional level data on the health and well-being of Aboriginal children and youth. With regional level data, it will be more possible to:

- report on a broader range of positive indicators;
- highlight success stories;
- make more comparisons among and between Aboriginal Peoples.

Out of respect for the FNIRHS process, where the Canadian Institute of Child Health has included data from the FNIRHS, we have also presented the FNIRHS interpretation.

Provincial and Territorial Data

Provincial and territorial sources of statistical data on Aboriginal children and youth are also available. Although data from these sources sometimes supplement what is available at the national level, the limitations that apply to national data generally apply to provincial and territorial data as well. Less is known about Aboriginal children and youth who live off-reserve and in urban centres. Little is known about Aboriginal children and youth who are not Registered Indians. These limitations represent significant gaps in our knowledge, whether we look at the provincial or the national picture. Further, the provinces and territories do not always collect comparable data.

Other Sources

For many groups, such as First Nations persons living off-reserve, the Inuit and the Métis, there are no comprehensive, population-based data available. Where possible, the chapter presents findings from smaller surveys and studies. In the absence of smaller studies or surveys, the chapter includes text boxes or "question mark" tables to highlight key issues. For example, a discussion of nutrition-related illness is provided in a text box because no meaningful statistics could be found.

Future Sources

Community Information

Many of the Aboriginal people consulted in the development of this chapter felt strongly that community level data are the most meaningful because they have the potential to help communities learn from each other. Currently, community level data are difficult to obtain. Further, communities tend to collect different data using different methods, thus making comparisons difficult. As a result, community-level data are an under-utilized resource which may, in the future, play an important role in the measuring and monitoring of health and well-being in Aboriginal communities.

Canadian Institute for Health Information (CIHI)

The Canadian Institute for Health Information is mandated to develop and maintain a comprehensive health information system. As part of this mandate, it maintains a database on hospital admissions. At this time, the data on hospital admissions are not available by ethnic identity. As a result, it is not possible to determine the hospitalization rates for Aboriginal children and youth or the major causes of hospitalization. This information would be a valuable asset, contributing to more effective illness and injury prevention and health promotion.

Glossary of Terms

Aboriginal Peoples: The term "Aboriginal" refers to all the people descended from the original inhabitants of North America. Aboriginal Peoples include Indians, Inuit and Métis people.

Registered or Status

Indians: A Registered or Status Indian is an Aboriginal person who is registered under the *Indian Act* of Canada. Status Indians can be treaty or non-treaty.

First Nations: Status Indian bands are referred to as First Nations. A band is a political organization as well as a cultural group and the term First Nations denotes a political unit. The Assembly of First Nations is a national organization that represents many, but not all, First Nations.

Métis: The Métis are a diverse cultural group, descended from the original occupants of Canada. Of mixed European and Aboriginal heritage, they consider themselves to be neither Indian nor Inuit, but culturally unique. They identify a geographic area in Western Canada as their homeland and are represented nationally by the Métis National Council.

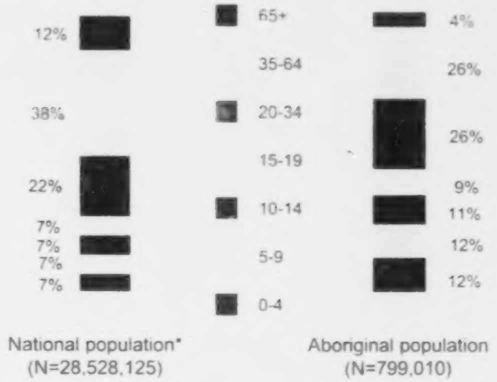
Inuit: The Inuit are Aboriginal Peoples who homelands are located above the tree line in the Northwest Territories, Nunavut, Northern Québec and Labrador. They are represented nationally by the Inuit Tapirisat of Canada.

Population

According to the 1996 Census, the population identifying themselves as having an Aboriginal identity was younger than the national population. The younger age distribution of Aboriginal Peoples has implications for policy and program development, particularly in the areas of health, education, recreation and youth employment.

6 - 1

National and Aboriginal Population, by Age Group
Canada, 1996

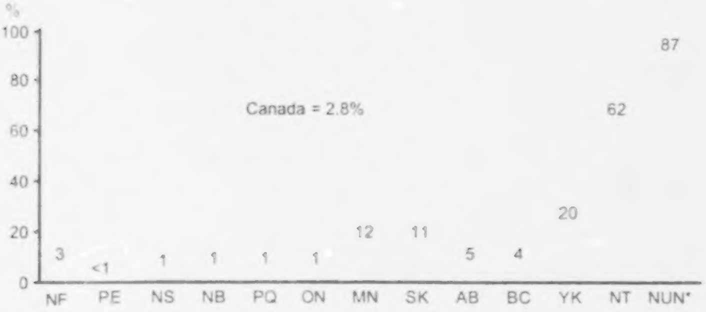


* National population includes Aboriginal population.
Note: Excludes 1996 Census data for one or more incompletely enumerated Indian Reserves or Indian Settlements.

Source: CICH using Statistics Canada. 1998. *The Nation Series, Complete Edition.* 1996 Census.

6 - 2

Aboriginal People as a Proportion
of the Provincial and Territorial Population
1996



*Includes Inuit only.
Note: Excludes 1996 Census data for one or more incompletely enumerated Indian Reserves or Indian Settlements.
Source: CICH using Statistics Canada. 1998. Canada Year Book, 1999.
CICH using Statistics Canada. 1999. *Annual Demographic Statistics, 1998.*

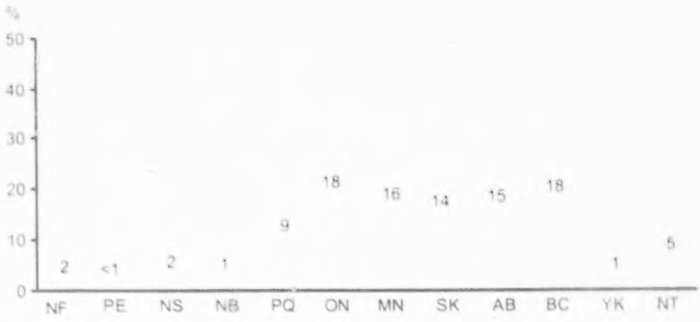
According to the 1996 Census, Aboriginal Peoples account for a small proportion of provincial populations, ranging from about 1% to 12%. They account for a more substantial proportion of the population in the Territories: 20% in the Yukon, 62% in the Northwest Territories and 87% (Inuit) in Nunavut. Aboriginal Peoples tend to have higher fertility rates and a younger population age distribution. As a result, Hanvey et al (1994) noted that, in 1991, in the Northwest Territories, 74% of children from birth to age 15 years were Aboriginal.

According to the 1996 Census, the distribution of Aboriginal Peoples across Canada is uneven, with a relatively small proportion of Aboriginal Peoples living in Atlantic Canada. The majority of Aboriginal people live in Central and Western Canada. Although only a small proportion of Aboriginal people live in the Yukon and the Northwest Territories, they account for a substantial proportion of the Territorial populations.

6 - 3

Distribution of the Aboriginal Population Across Canada

Provinces and Territories, 1996

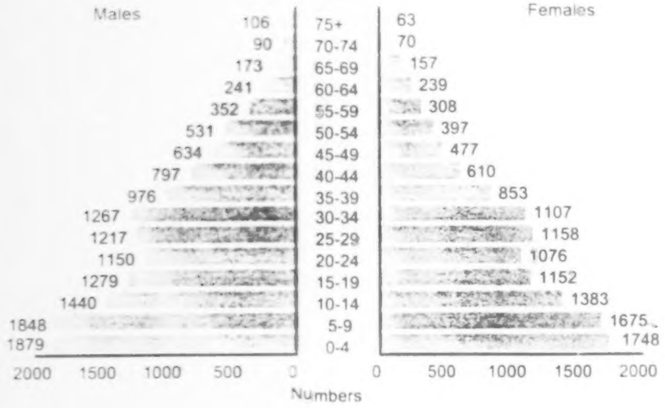


Note: Excludes 1996 Census data for one or more incompletely enumerated Indian Reserves or Indian Settlements.
Source: Statistics Canada. 1998. *Canada Year Book 1999.*

6 - 4

Nunavut Population Distribution

1998



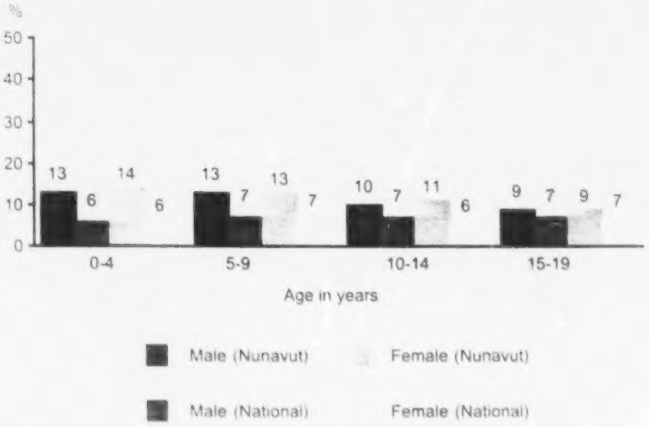
Source: Statistics Canada. 1999. *Annual Demographic Statistics, 1998.*

Nunavut is Canada's newest northern territory. 87% of the population of Nunavut is Inuit. Compared with the national population age distribution, Nunavut's population is very young. This point is dramatically illustrated when the number of infants and preschoolers is compared with the number of adults over 45 years of age. These groups are roughly the same size: there are an estimated 3,627 children from birth to age 4 years and approximately 3,838 adults age 45 years or more.

One way of looking at the child population age distribution is to look at the proportion of the population in each five-year age group. In 1998, children under the age of 10 years accounted for a greater proportion of Nunavut's population than children aged 10 to 19 years. Children and youth (birth to 19) accounted for approximately 46% of Nunavut's population. With almost half of its population under 20, Nunavut has particular challenges to meet in areas of health care, health promotion, education, recreation and youth employment.

6 - 5

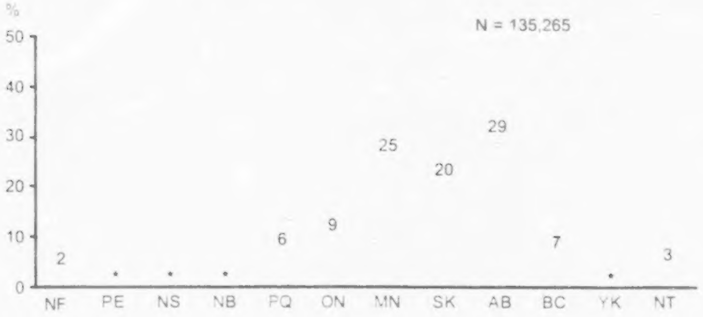
Proportion of the Nunavut Population by Age Group
Nunavut, 1998



Source: Statistics Canada. 1999. *Annual Demographic Statistics, 1998.*

6 - 6

Distribution of the Métis Across Canada
Provinces and Territories, 1991



* Numbers too small to report.
Source: Statistics Canada. 1996. *A Profile of the Metis: Target Groups Project.*

The Métis are a people of mixed ancestry with a unique culture. They are distinct from First Nations, Inuit and non-Aboriginal Peoples. According to the 1991 Aboriginal Peoples Survey, 74% of the Métis population, approximately 99,000 Métis, lived in the Prairie provinces. The remaining 27% were found mostly in Québec, Ontario and British Columbia. Looked at in another way, Métis accounted for larger percentages of provincial populations in Manitoba (3.1%), Saskatchewan (2.8%) and Alberta (1.5%) than in other provinces.

In 1991, the Métis population age distribution was very similar to that of North American Indians (the term used in the source). In all three age groups (representing childhood and youth) and for both sexes, the percentage of the population in that age group is higher for Métis and North American Indians than for non-Aboriginal people. Thus, Métis population, like the North American Indian population, is younger overall than the "aging" national population.

6 -

Métis Population Age Distribution

Canada, 1991

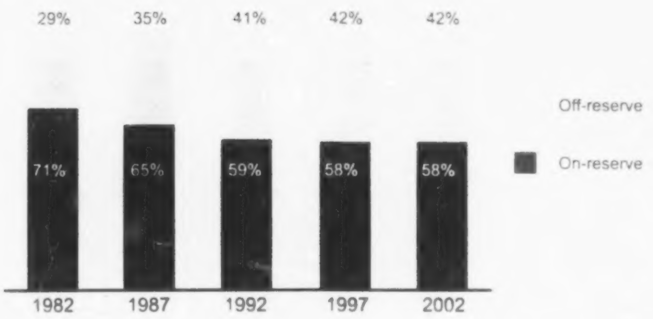
	Métis %	North American Indian %	Inuit %
> 5 yrs (both)	14	14	17
Female	14	13	17
Male	15	15	17
5-14 yrs (both)	24	23	26
Female	22	22	25
Male	25	25	26
15-24 yrs (both)	19	19	20
Female	20	19	21
Male	17	20	20

Source: Statistics Canada. 1996. *A Profile of the Métis: Target Groups Project.*

6 - 8

Registered Indian Population Growth, by On/Off Reserve Residence

Canada, 1982-2002



Note: The average annual growth rate over the 1997-2002 period is calculated on the basis of 1997 adjusted year-end population count from the Indian Register.
Source: Department of Indian Affairs and Northern Development. 1999. *Basic Departmental Data, 1998.*

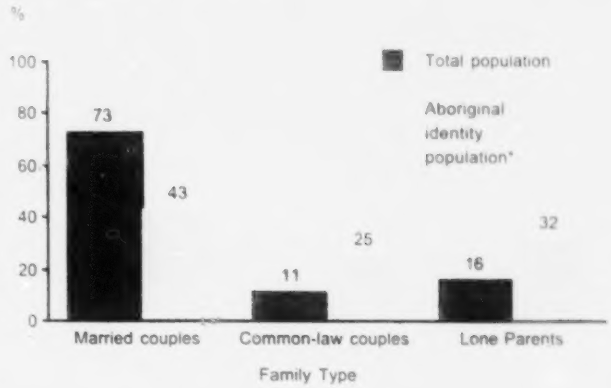
The proportion of the Registered Indian population living on- and off-reserve has changed since 1982, with an increase in the proportion living off-reserve. According to Indian and Northen Affairs Canada (INAC), in 1982, 29% of Registered Indians lived off-reserve. By 1997, 42% did. Part of the increase in off-reserve residency is attributable to Bill C-31, through which many names were added to the Indian Registry. Information on the health determinants and health outcomes of Registered Indians living off-reserve is scant. Improving the quantity and quality of this information is essential to effective policy and program development.

Family Structure

Although Aboriginal children are more likely to live with a lone-parent than non-Aboriginal children, the majority of Aboriginal children live in two-parent households. According to the 1996 Census, approximately two in three Aboriginal children under the age of 15 years lived in a two-parent household while one in three lived with a lone-parent. Children living in a lone-parent household are at elevated risk for living in poverty.

6 - 9

Proportion of Children Birth to 14 Years of Age in Census Families, By Family Structure
Canada, 1996



* The population who reported identifying with at least one Aboriginal group: North American Indian, Metis or Inuit
Source: Statistics Canada. 1998. *The Daily*. January 13, 1998.

6 - 10

Aboriginal Child Care

- Child care services are regarded by Aboriginal groups as a necessary support to employment and education opportunities.
- The absence of these services creates a significant barrier to balancing family and work responsibilities and achieving social security, self-sufficiency and economic development goals.
- Culturally appropriate child care services that recognize and respect Aboriginal family systems and practices are needed. Child care services provided in Aboriginal languages and based on Aboriginal ways of learning are essential to the preservation of Aboriginal traditions and identity.
- Two national Aboriginal child care initiatives were announced in 1995: The First Nations/Inuit Child Care initiative and the Aboriginal Head Start Initiative. To maximize the benefits of these programs, they must be implemented in ways that are respectful of Aboriginal children, families and communities.

Source: Greenwood, M. 1999. *Aboriginal Child Care in Review (Part One)*.

Child Care

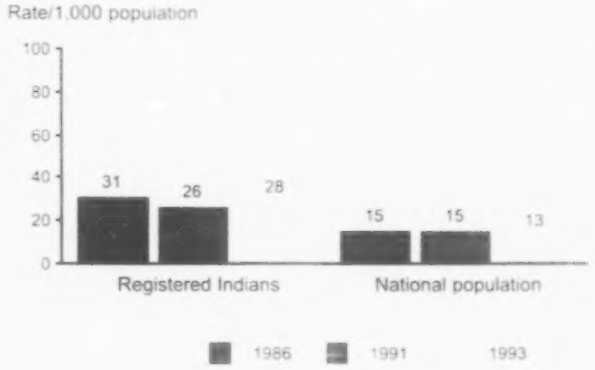
In addition to the importance of child care to parental employment, many Aboriginal groups consider Aboriginal child care an important component in the process of healing under way in many Aboriginal communities. They envision Aboriginal child care centres as vehicles of cultural affirmation and transmission (Greenwood, 1999).

Pregnancy, Birth and Infancy

The birth rate is the number of live births per 1,000 population. The Registered Indian birth rate has been consistently higher than the national birth rate in Canada. The higher birth rate results in a relatively young Registered Indian population and highlights the need for adequate and accessible services that meet the social and health needs of pregnant women, infants, children and youth.

6 - 11

Birth Rate, Registered Indians and National Population
1986, 1991 and 1993



Source: Indian and Northern Affairs Canada. 1996. *Aboriginal Women: A Demographic, Social and Economic Profile.*

6 - 12

Birth Weight Distribution

- Aboriginal Peoples have a slightly different birth weight distribution curve than Canada overall. Compared to the national distribution, fewer babies are born at the lower weights, more babies are born at the higher weights and the median weight is somewhat higher.
- One explanation that has been proposed for the different birth weight distribution is that Aboriginal People have a genetic predisposition to heavier babies. More research is needed to better understand this pattern and to explore the role of additional factors such as nutrition. There are insufficient data at this time to interpret the health implications of the Aboriginal birth weight distribution.
- Changes in the birth weight distribution of Aboriginal Peoples, however, merits careful monitoring.

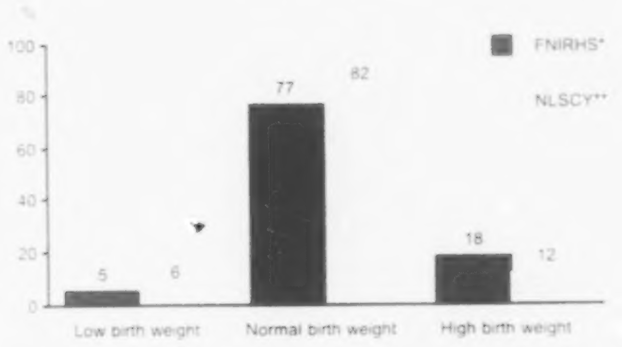
Source: CICH consultations with The CICH Profile Aboriginal Round Table.

Birth weight is a well-established determinant of health. More research is needed to better understand the birth weight distribution among Aboriginal peoples and the various factors, whether genetic, behavioural or environmental, that shape it.

The FNIRHS results indicated that the rate of low birth weight was slightly lower in Aboriginal populations than in the national population. The rate of high birth weight was, however, somewhat higher in Aboriginal populations. At this time, there is insufficient information to interpret these findings.

6

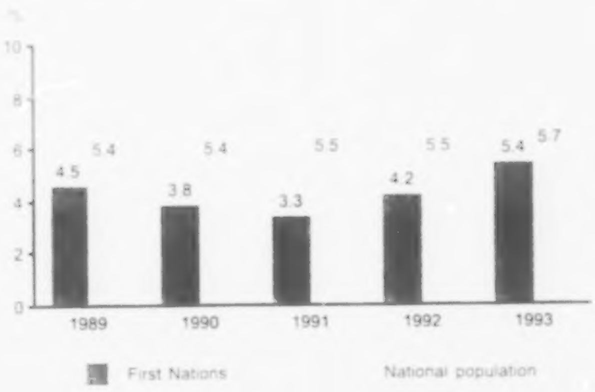
Birth Weight Distribution
FNIRHS*, 1997



* First Nations and Inuit Regional Health Survey
**National Longitudinal Survey of Children and Youth
Source: MacMillan, H. et al. 1999. *Children's Health*. In First Nations and Inuit Regional Health Survey: National Report 1999.

6

Percentage of Low Birth Weight* Infants
First Nations and National Population, 1987-1993

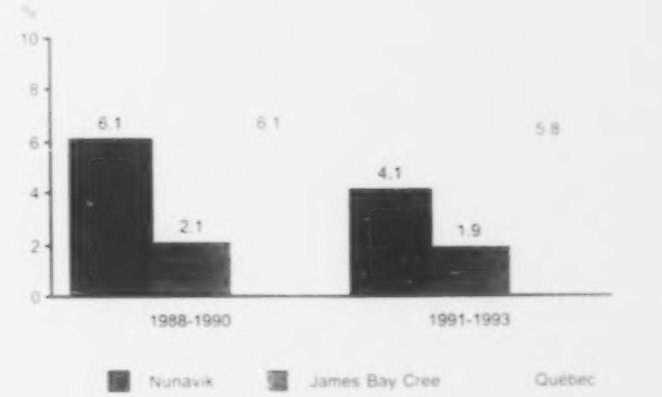


During the early 1990s, the rate of low birth weight was lower in First Nations' populations than in the national population. However, the First Nation's rate has increased steadily since 1990, closing the gap with the national rate. Low birth weight is linked with neonatal mortality and morbidity, as well as lasting neurological deficits. Given the substantial health problems associated with low birth weight, the increasing rate among First Nations mothers is cause for concern.

*Low birth weight refers to infants weighing less than 2.5 kilograms at birth.
Source: Health Canada. 1996. Medical Services Branch In-house Statistics. In *Trends in First Nations Mortality 1979-1993.*

The low birth weight rate is lower for Aboriginal people in Northern Québec than for non-Aboriginal people in Québec overall. However, there are substantial differences between the Inuit and Cree populations. For example, the 1991-93 rate of low birth weight in Nunavik was 4.1% while it was only 1.9% among the James Bay Cree. Both rates were markedly lower than the Québec rate at 5.8%. Between 1988-90 and 1991-93, the rate of low birth weight decreased in Nunavik and in the James Bay Cree, increasing the gap between them and the overall Québec rate. This trend contrasts with the climbing rate of low birth weight noted in First Nations populations (see 6.14).

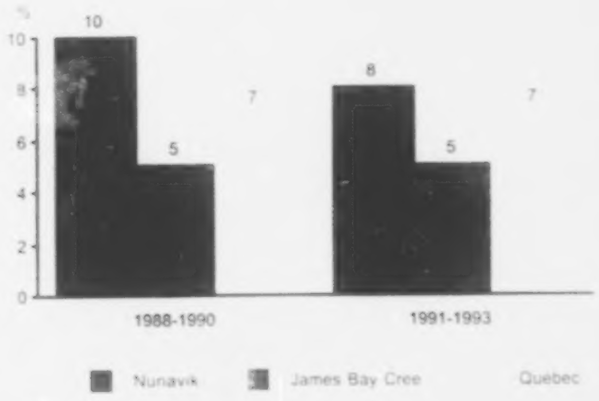
6.15



Low Birth Weight in Nunavik, James Bay Cree and Québec, 1988-1990 and 1991-1993

Source: Hodgins, S. 1997. *Health and What Affects it in Nunavik: How is the Situation Changing?*

6.16



Preterm Birth Rate in Nunavik, James Bay Cree and Québec, 1988-1990 and 1991-1993

Source: Hodgins, S. 1997. *Health and What Affects it in Nunavik: How is the Situation Changing?*

Between 1988-89 and 1991-93, the rate of preterm birth decreased somewhat in Nunavik, while remaining stable in the James Bay Cree and Québec populations. The rate of preterm birth in Nunavik and James Bay was significantly higher than the rate of low birth weight reported in those populations. For Québec, the rate of preterm birth was slightly higher than the rate of low birth weight. These findings reflect the heavier gestational birth weights reported among Aboriginal infants. Early preterm birth is especially associated with perinatal illness, neonatal death and long-term complications, including disability.

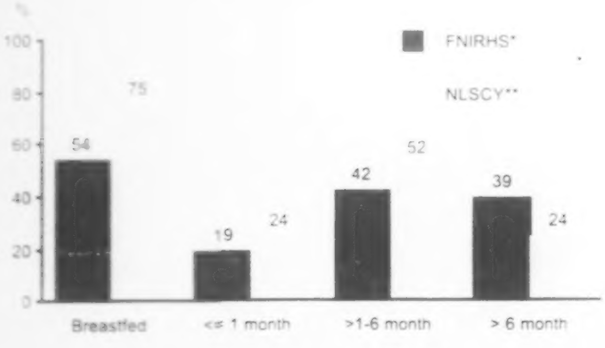
Fetal Alcohol Syndrome (FAS), a condition that results in lifelong disability, is diagnosed in response to a constellation of features: growth deficiencies, developmental delays, neurological, behavioural and intellectual deficits, skull or brain malformations, and characteristic facial features. A diagnosis of Fetal Alcohol Effects (FAE) is made when some but not all of these features are found (CCSA - CAMH, 1999). FAE is often first diagnosed during the school years. Just as there is no verified rate for FAS for Canada, although 1/500 live births is a rough estimate, the rate of FAS in Aboriginal populations is unknown. Limited studies showing high rates (3/500 live births) in some Aboriginal communities cannot be generalized to the wider Aboriginal population (Aboriginal Nurses Association, 1997).

6 - 12

Incidence of FAS in Aboriginal Populations

6 - 13

Percent Breastfed, Age Less Than 1 Year of Age, and Months Breastfed for Those Who Were Breastfed, Age Less Than 2 Years of Age
FNIRHS and NLSCY, 1997



* First Nations and Inuit Regional Health Survey
**National Longitudinal Survey of Children and Youth.
Source: MacMillan, H. et al. 1999. *Children's Health.* In First Nations and Inuit Regional Health Survey: National Report. 1999.

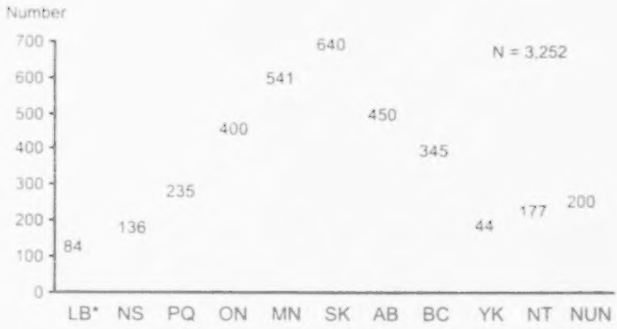
Breastfeeding offers many benefits: it provides infants with optimum nutrition; it protects against infectious and allergic diseases; and, it promotes maternal-infant attachment. Breastfeeding may also provide some protection against SIDS (Canadian Foundation for the Study of Infant Deaths et al, 1999). FNIRHS mothers were less likely to initiate breastfeeding than NLSCY mothers. However, FNIRHS mothers who breastfed were more likely than NLSCY mothers who breastfed to breastfeed for six months or more. This suggests that efforts to promote breastfeeding in the Aboriginal population need to focus on increasing the initiation rate.

Preschool

Aboriginal Head Start programs empower parents and their communities to meet the developmental needs of young children. 98 Aboriginal Head Start sites across Canada enrolled 3,252 children in off-reserve preschool programs in the 1998-99 term. Aboriginal Head Start sites are locally controlled and administered by Aboriginal non-profit organizations. 71% of the staff is Aboriginal. First Nations children represent 44% of the program participants, Inuit children 34% and Métis children 22%. The number of children currently enrolled in Aboriginal Head Start programs meets only a small fraction of the need.

6 - [illegible]

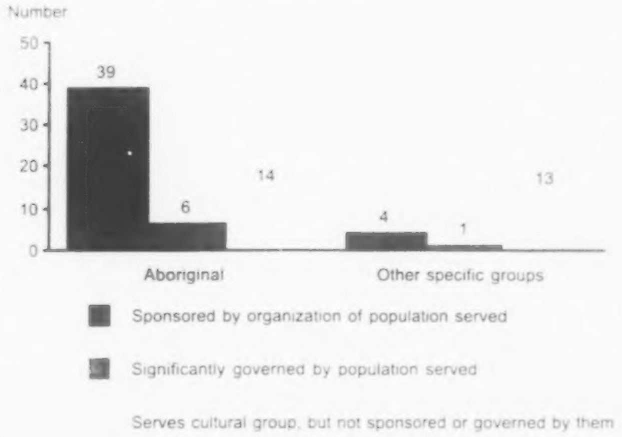
Number of Children Being Served in 10-Month Aboriginal Head Start Programs
Provinces* and Territories, 1999



* LB = Labrador
Source: Aboriginal Head Start Programs. 1999. Personal communication with Richard Budgell, Manager, Aboriginal Childhood and Youth Section, Health Canada.

6 - 20

CAPC Projects with a Cultural Focus
Canada, 1999



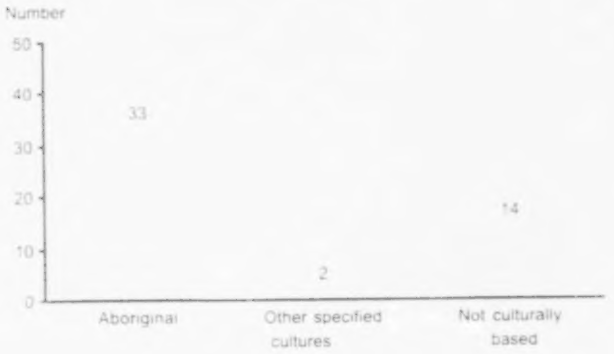
Note: CAPC= Community Action Program for Children
Source: Health Canada. *Form C, Cycle 8.* (October 1998 to March 1999) Community Action Program for Children.

The Community Action Program for Children (CAPC) funds community-based projects that support the healthy development of children, directly or through services for parents and care givers. In 1999, 39 CAPC projects serving Aboriginal families were sponsored by Aboriginal organizations and 6 CAPC projects serving Aboriginal families were significantly governed by Aboriginal organizations. 14 CAPC projects specifically serving Aboriginal families were sponsored or governed by non-Aboriginal organizations. These figures are indicative of the substantial efforts made by Aboriginal communities to support Aboriginal families and promote the well-being of Aboriginal children.

Of the CAPC projects offering services in other languages, 33 projects serve Aboriginal people. Providing services in Aboriginal languages strengthens that language within the community. The strong presence of an Aboriginal language in a community can help children and youth develop a clear sense of personal identity and positive self-esteem. These qualities are key ingredients in health and resiliency.

6 - 21

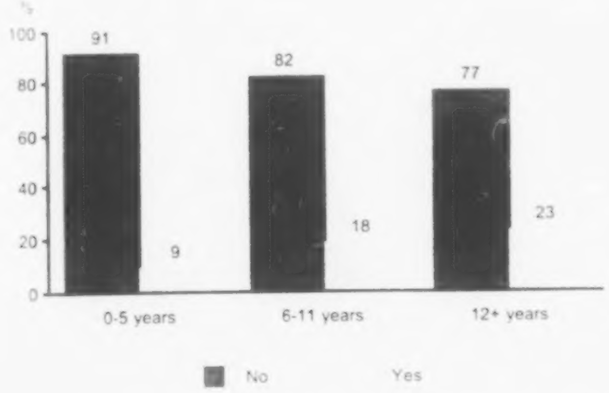
Language of Service by CAPC Project With A Specific Cultural Focus
October 1998 - March 1999



Source: Health Canada. 1999. *Form C, Cycle 8.* (October 1998 to March 1999) Community Action Program for Children.

6 - 22

Emotional or Behavioural Problems, by Age Group
First Nations and Inuit Regional Health Survey, 1997



Source: MacMillan, H. et al. 1999. *Children's Health.* In First Nations and Inuit Regional Health Survey: National Report. 1999.

School Age

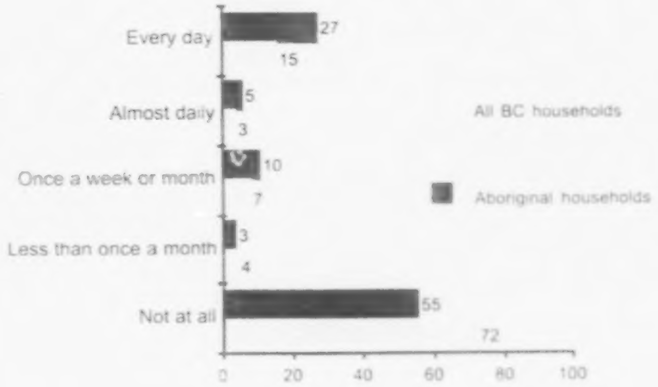
Although the majority of parents in the FNIRHS reported that their child (or children) had no emotional or behavioural problems, a substantial minority reported problems. The rate of problems increased with age. 9% of children from birth to age 5 had problems, 18% of children 6 to 11 years of age and 23% of children 12 years of age and older. This indicates that, for many children and youth, emotional and behavioural problems may be age-related.

27% of children aged 11 years and under living in Aboriginal households in BC were exposed to environmental tobacco smoke (ETS) on a daily basis. In contrast, 15% of children aged 11 and under living in all BC households were exposed to ETS. Exposure to ETS increases the risk of chronic respiratory problems (such as asthma), frequent respiratory infections, ear infections and other health problems, and has been implicated in SIDS. Given the health consequences of ETS, both the Aboriginal and the provincial rates are a pressing public health issue.

6

Exposure to Environmental Tobacco Smoke, Households with Children Aged 11 Years and Under

British Columbia, 1997

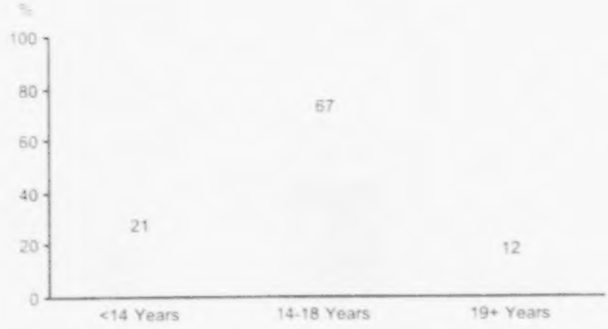


Source: Provincial Health Officer's Report. 1997. *Tobacco Use in British Columbia, 1997.*

6

Smoking Initiation by Age

Manitoba 1998



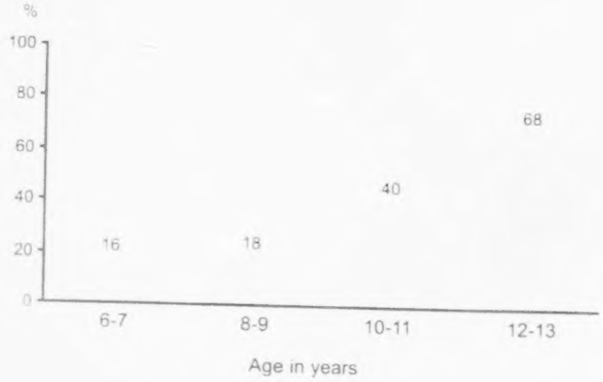
Source: Northern Health Research Unit. 1998. *Manitoba First Nations Regional Health Survey: Final Report.*

According to the Manitoba First Nations Regional Health Survey, the majority of First Nations people who smoke started smoking between the ages of 14 and 18 years. However, one in five smokers began smoking before the age of 14 years. Programs to prevent smoking initiation and programs to promote and support smoking cessation must address the specific needs and circumstances of school aged children as well as youth and adults.

In Nunavik, 16% of children six to seven years of age already identify themselves as smokers. By ages 12 and 13, 68% of children smoked. As the use of tobacco is associated with a significant burden of disease and death, the proportion of children in Nunavik who reported smoking and the underlying factors are a cause for immediate concern and action. Further, the early onset of smoking is associated with more difficulty ending the habit. Culturally and developmentally appropriate programs for tobacco use prevention, reduction and cessation should be a key public health concern. The use of tobacco is not a traditional practice among Inuit peoples.

6 - 25

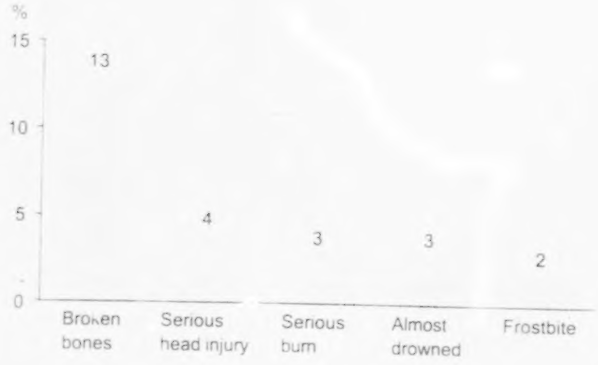
Proportion of Children Smoking, by Age Group
Nunavik, 1992



Source: Hodgins, S. 1997. *Health and What Affects it in Nunavik: How is the Situation Changing?*

6 - 26

Lifetime Prevalence of Injury, Children From Birth to 17 Years
First Nations and Inuit Regional Health Survey, 1997



Source: MacMillan, H. et al. 1999. *Children's Health*. In First Nations and Inuit Regional Health Survey: National Report 1999.

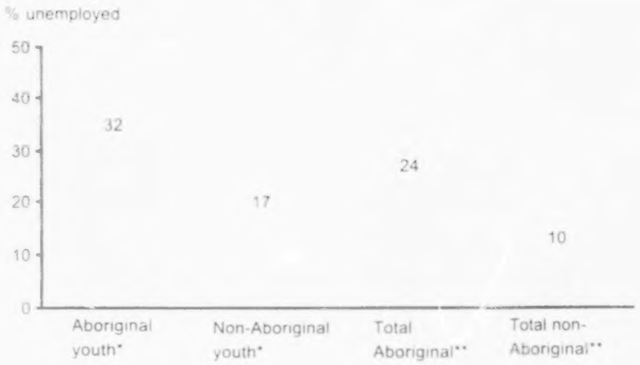
Youth

During the first seventeen years of life, injury is a major health concern for First Nations and Inuit people. According to the FNIRHS, 13% of First Nations and Inuit people will have broken a bone by the time they are seventeen, 4% will have incurred a serious head injury, 3% will have been seriously burned, 3% will have almost drowned and 2% will have experienced frostbite. Injury prevention is thus a priority health issue.

In 1996, the unemployment rate for Aboriginal youth was 32%, almost double the rate for non-Aboriginal youth. This pattern of increased risk of unemployment persists throughout the life cycle. Aboriginal populations face many economic barriers in areas such as access to equity and debt capital, business and market development, workforce training and experience, resources, and innovation in the workplace (DIAND, 1999, http://www.inac.gc.ca). Unemployment is associated with economic insecurity and family hardship. It also constitutes a threat to mental health. Action on behalf of youth is essential if they are to establish themselves in the labour force.

6 - 27

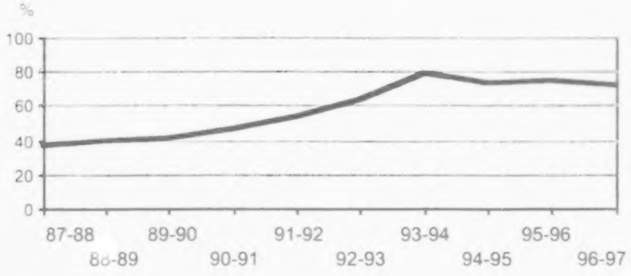
Unemployment Rates Among Aboriginal People
Canada, 1996



* Youth age 15-24 years
** Population age 15-64 years
Source: Statistics Canada. 1998. *A Profile of Youth Justice in Canada.*

6 - 28

On-Reserve Students Remaining Until Grade XII for Consecutive Years of Schooling
Canada, 1987-88 to 1996-97



%	37	39	41	47	54	63	78	73	75	71

Source: Department of Indian Affairs and Northern Development. 1998. *Basic Departmental Data 1997.*

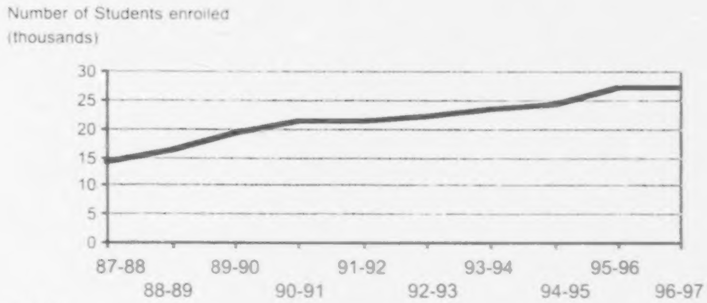
The percentage of Registered Indian children and youth remaining for 12 consecutive years of schooling, rose sharply between 1987-88 and 1993-94. Between 1993-94 and 1996-97, the percentage fell slightly. Education is an important determinant of health, closely associated with employment and income.

The number of Registered Indian and Inuit young people enrolled in post-secondary institutions almost doubled between 1987-88 and 1996-97. Researchers have found an association between a "future orientation" and mental health and well-being.

6 - 29

Enrolment in Post-secondary Institutions, Registered Indian and Inuit Population

Canada 1987-88 to 1996-97



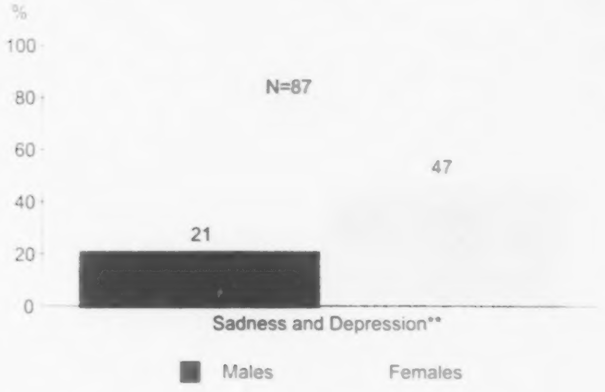
Number of students enrolled (thousands)	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97
	14	16	19	21	21	22	23	24	27	27

Source: Department of Indian Affairs and Northern Development. *Basic Departmental Data 1997.*

6 - 30

Percentage of Mi'kmaq Youth* Reporting Sadness or Depression, 12-18 Years of Age

1997



* Up to 18th birthday

**Depression = answering yes to the question, "Have you felt sad or depressed for two consecutive weeks or more in the past 12 months."

Source: *The Health of the Nova Scotia Mi'kmaq Population. 1997.*

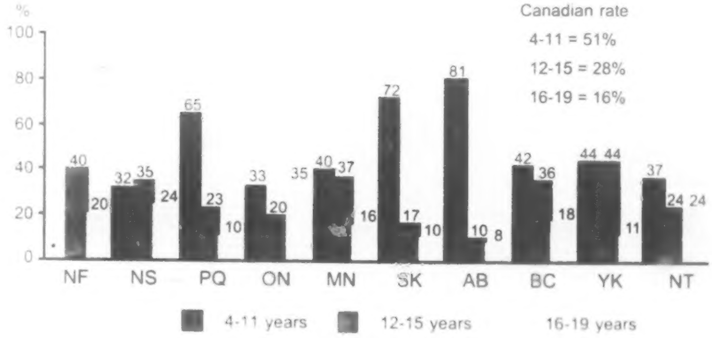
Although occasional feelings of sadness and/or depression are common, feeling sad or depressed for extended periods of time may, in some cases, indicate mental illness (e.g. clinical depression). One in five male youth and almost one in two female youth reported that they had felt sad or depressed for two consecutive weeks or more in the past 12 months. These high rates of sadness and depression, particularly for female youth, are a cause for concern.

Solvent abuse is a very damaging practice, putting children and youth at risk of permanent injury and death. There is considerable variation between regions in terms of the age of starting solvent abuse. In Alberta, Saskatchewan and Québec, the majority of Aboriginal children and youth who reported abusing solvents, started the practice while 4 to 11 years of age. Strategies to prevent solvent abuse and other risky behaviours must target young children as well as youth, and must address the social and economic determinants that contribute to this and other forms of risk-taking.

6 - 31

Age of Starting Solvent Abuse Behaviour in Native Youth Aged 4-19 Years Who Use Solvents, by Age Group

Canada, Provinces and Territories, 1993



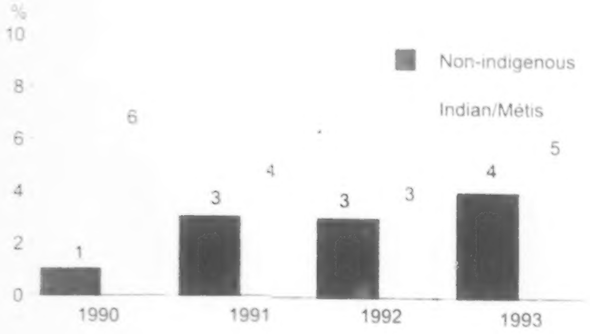
* Numbers too small to report.

Source: Kaweionnenta Human Resource Group. 1993. *First Nations and Inuit Community Youth Solvent Abuse Survey and Study.*

6 - 32

Percentage of Indian/Métis and Non-Indigenous Adolescents Sniffing Glue

Manitoba, 1990-1993



Source: Scott, K.A. 1995. Kishk Anaquot Health Research and Program Development for the National Native Alcohol and Drug Abuse Program. *Indigenous Canadians: Substance Use Profile, 1995.*

In 1990, 6% of Indian/Métis adolescents engaged in glue sniffing at some time compared with 1% of non-indigenous adolescents. Throughout the early 1990s, glue use in the non-indigenous population rose. By 1993, 4% of non-indigenous adolescents and 5% of Indian and Métis adolescents sniffed glue at some time. Glue is inexpensive and accessible; sniffing glue is addictive and harmful.

Chronic Disease and Disability

Families with children with disabilities often find it necessary to move to urban areas where services and programs are more accessible. However, Aboriginal families with children with disabilities living in cities still find few suitable, culturally-appropriate services and programs. According to a recent study examining the needs of Aboriginal children and youth with developmental disabilities and their families (Factor and Fulton, 1999), building the capacity of the health and social service systems to respond appropriately both on- and off-reserve, in urban and in rural areas, is essential. Aboriginal children and youth with developmental disabilities need access to the full continuum of services. Aboriginal facilitators may be necessary to assist families in working with the service agencies.

6 - 33

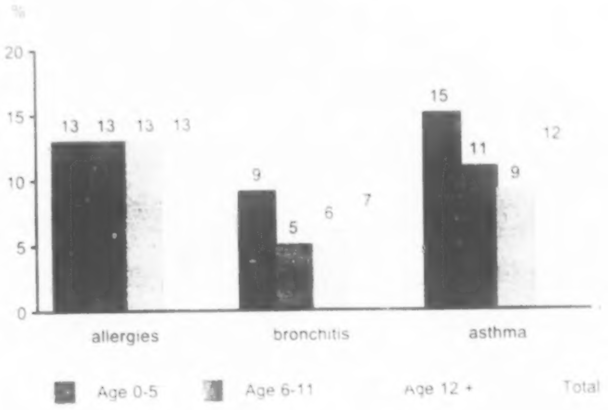
Aboriginal Children and Youth with Disabilities

- Aboriginal children and youth have a higher rate of disability than children and youth in the national population as a whole.
- According to the Aboriginal People's Survey (1991), Aboriginal children off reserve had a higher rate of "severe" disability (5.6%) than those on reserve (3.5%). The rate of "severe" disability in the general population was 2.2%. (A severe disability limits daily living in a number of ways and is not compensated for by an assistive device.)
- Evidence indicates that unintentional injuries are a common underlying cause of disability among Aboriginal people.
- Inhalant and other substance abuse may also contribute to the higher rate of disability among Aboriginal people.

Source: Ng, Edward. 1996. Disability among Canada's Aboriginal Peoples in 1991. *Health Reports*.

6 - 34

Prevalence of Specified Medical Conditions by Age Group
1997



Source: MacMillan, H. et al. 1999. *Children's Health*. In First Nations and Inuit Regional Health Survey. National Report. 1999

According to the FNIRHS, allergies are one of the most common chronic conditions. Approximately 13% of children are affected by allergies. Parents reported that approximately 15% of children under six, 11% of children aged 6 to 11 years and 9% of children aged 12 years and older had asthma. Although bronchitis was reported less than allergies and asthma, it affected almost one in ten children under six. Respiratory illness is the single greatest cause of hospitalization for young Aboriginal children, as it is for non-Aboriginal children.

A nutritious diet is important to the healthy development of infants, children and youth. In addition to specific health problems that result from dietary deficiencies, inadequate nutrition can also negatively impact on social and motor development, behaviour and learning.

6

Nutrition-related Health Problems

- Aboriginal people who live in northern communities serviced by food mail exhibit a wide range of nutrition-related medical conditions. These problems are a consequence of inadequate nutrition.
- According to a 1996 study, residents of remote communities consume large amounts of convenience food that tend to be high in fat, sodium and/or sugar and low in nutritive value.
- The medical conditions include, but are not limited to, anaemia, dental caries, obesity, respiratory illness and non-insulin dependent diabetes.
- Diabetes, in particular, is an emergent health problem in many Aboriginal populations. Genetics and diet are both contributing factors to the prevalence of this disorder in Aboriginal Peoples.

Sources: Indian and Northern Affairs Canada. 1996. *The Food Mail Refinements Study.*
Health Canada. 1998. *Diabetes among the First Nations People.*

6 5

Diabetes

- 2.3% of male Aboriginal youth (15 to 24 years of age) are diagnosed with diabetes compared with 0.4% of the male youth population in Canada. The difference is even greater between female Aboriginal youth (3.6%) and the female youth population in Canada (0.4%).
- The elevated risk of diabetes among Aboriginal people increases with age. 18.1% of Aboriginal men, aged 45 to 54 years, were diagnosed with diabetes. The rate for all men in Canada was 3.4%. 22.2% of Aboriginal women, aged 45-54 years, were diagnosed with diabetes compared with 3% of all women in Canada. More women than men report being diagnosed with diabetes.
- Nutrition, beginning with maternal nutrition during pregnancy and continuing through the life cycle, is an important factor contributing to the prevalence of diabetes.
- Genetic predisposition, in combination with diet and exercise, is another contributing factor to the prevalence of diabetes among Aboriginal people.

Sources: Young, T.K. 1999. Research Based on the FNIRHS. *Personal communication.*
Health Canada. (1998). *Diabetes Among First Nations People.*

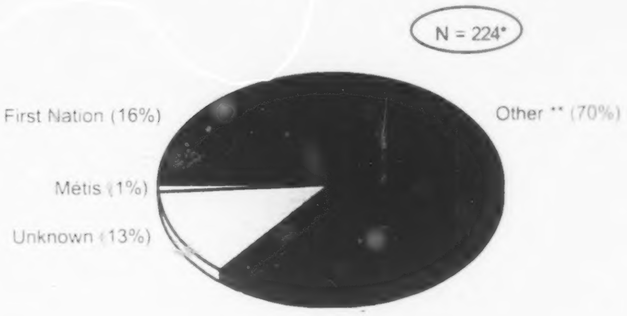
A variety of health problems are associated with diabetes (Health Canada, 1998). People with diabetes tend to rate their health much lower than people without diabetes. They are more likely to report problems, such as high blood pressure, heart disease and vision problems. Diabetes can thus have a significant negative impact on health and the overall quality of life of an individual.

HIV/AIDS is a serious health issue among Aboriginal peoples. Aboriginal peoples are considered to be at an elevated risk for HIV infection. Evidence suggests that Aboriginal people are infected at a younger age than non-Aboriginal people. These realities are, in part, a result of the higher rate of injection drug use among Aboriginal people, including Aboriginal youth. The most common mode of transmission for Aboriginal men is homosexual contact. The second most common mode of transmission for males is intravenous drug use. The most common mode of transmission for Aboriginal women is intravenous drug use. HIV can be effectively controlled by drug therapy, preventing the development of AIDS and most transmission to the fetus. Seeking treatment early is essential (Assembly of First Nations, June 1998).

6

Proportion of New HIV Positive Tests. by Aboriginal and Non-Aboriginal Status

British Columbia. January to June 1999



*Male=163, Female=56, Gender unknown=5
**Includes Asian, Black, Hispanic, South Asian and White.
Note: Inuit= 0%
Source: British Columbia Centre for Disease Control HIV Surveillance System 1999
Why the Red Road? Newly Diagnosed HIV in Aboriginal British Columbians

6

Total Number of Newly Diagnosed HIV Infections in Aboriginal Peoples

British Columbia, 1995 to 1999

	1995	1996	1997	1998	1999
First Nations	86	124	83	67	35
Metis	5	2	3	4	2
Inuit	N/A*	N/A	1	N/A	1
All Aboriginal	91	126	87	71	38
All B.C.	690	714	561	482	224

*N/A: Data not available
Source: British Columbia Centre for Disease Control HIV Surveillance System 1999
Why the Red Road? Newly Diagnosed HIV in Aboriginal British Columbians

Aboriginal people are one of the fastest growing segments of the HIV-positive population. Aboriginal people tend to be highly mobile, moving back and forth between cities and rural areas. This high mobility increases the risk of taking HIV/AIDS to even remote areas (Assembly of First Nations, June 1998). Immediate steps are required to prevent an epidemic within the Aboriginal population of Canada.

Housing Security and Food Safety

Some families living in housing need are confronted with challenges to their health and well- being. Their homes are, in many cases, in poor repair, increasing the risk of injury or exposure to environmental contaminants, such as lead in old paint. Their homes are also more likely to be in unsafe neighbourhoods, further increasing the likelihood of injury and, potentially, of distress. Overcrowding may be an issue, contributing to, among other health problems, the spread of respiratory disease. Families living in housing need are at increased risk of frequent moves and, in extreme circumstances, homelessness. Frequent moves and homelessness both have negative health and well-being implications.

6 - 39

Housing Need

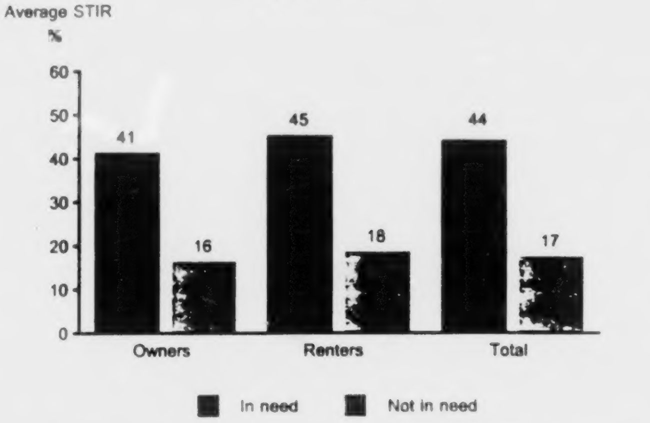
- Housing need is measured by the Canada Mortgage and Housing Corporation using three standards: housing suitability (e.g. crowding), adequacy (e.g. in need of repair) and affordability (less than 30% of income). A household is in housing need if its housing does not meet one or more of these standards. (Families who could afford to live in suitable, adequate, affordable rental housing were excluded from the sample.)
- Aboriginal families with children are much more likely than non-Aboriginal families with children to live in housing need. Aboriginal families that include children without disabilities are over twice as likely as their non-Aboriginal counterparts to live in housing need. Those that have children with disabilities are almost twice as likely to live in housing need as non-Aboriginal families supporting children with disabilities. Data are taken from the 1996 Census.

Sources: Canada Mortgage and Housing Corporation. 1996. *The Housing Conditions of Aboriginal People in Canada.*
Engeland, J. 1999. Personal communication.

6 - 40

Average Shelter Cost to Income Ratio For Aboriginal Families With Children Under 18 by Housing Need Status and Family Type

Canada, 1996



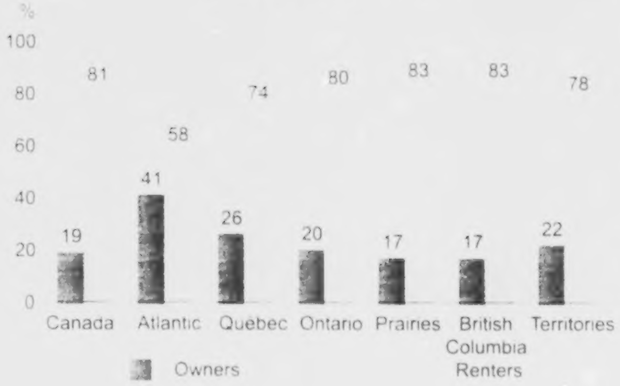
Note: STIR refers to the shelter cost-to-income ratio which identifies the proportion of total before taxed household income that is being spent on shelter.
Source: Special runs conducted by Canada Mortgage and Housing and Corporation. John Engeland and Cynthia Piché, 1999.

Aboriginal families with children living in housing need who rent spend an estimated 45% of their post-tax income on housing costs. Aboriginal families with children living in housing need who own their home spend an estimated 41% of their income on housing costs. On the other hand, Aboriginal families who are not in housing need spend approximately 17% of their income on housing costs. According to the Canada Mortgage and Housing Corporation, Aboriginal households are more likely than non-Aboriginal households to be in housing need due to non-affordability (26.1% compared to 16.0%), suitability (7.7% compared to 1.9%) and adequacy (7.8% compared to 2.8%). Aboriginal households were three times as likely as non-Aboriginal households to live in homes with multiple problems relating to housing need.

While just over 50% of all Aboriginal family households rent, 81% of all Aboriginal family households in housing need are renters. Aboriginal renters, like non-Aboriginal renters, are much more likely to live in housing need than owners. There is an urgent need among Aboriginal populations living off-reserve for affordable, suitable and adequate rental housing. Safe and healthy living conditions are important to the healthy development of children and youth.

6

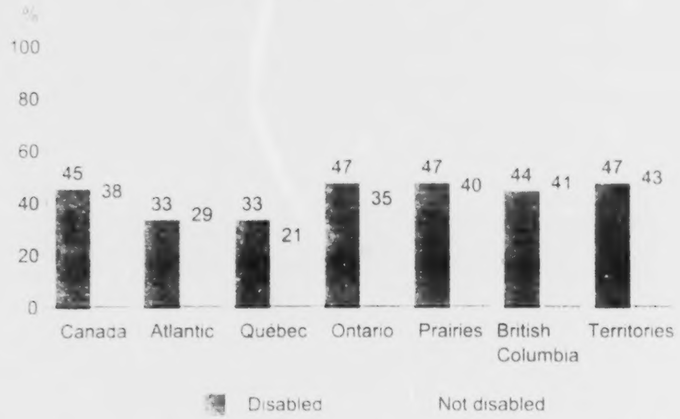
Tenure Profile of Aboriginal Family Households in Housing Need
Canada and Regions, 1996



Source: Special runs conducted by Canada Mortgage and Housing Corporation. John Engeland and Cynthia Piché, 1999.

6 - 42

Proportion of Aboriginal Children Less Than 15 Years of Age by Disability Status and Housing Need
Canada and Regions, 1996



Source: Special runs conducted for CICH by the Canada Mortgage and Housing and Corporation. John Engeland and Cynthia Piché, 1999.

In most provinces, in 1996, Aboriginal children with a disability were slightly more likely to live in housing need than Aboriginal children with no disability. In Ontario and Québec, the difference was more marked. Because comprehensive social supports are unavailable, caring for a child with a disability tends to have a negative impact on family income. According to the Canada Mortgage and Housing Corporation, 2 in 5 Aboriginal families that have children with disabilities live in housing need. Aboriginal children are slightly more likely than non-Aboriginal children to have a disability.

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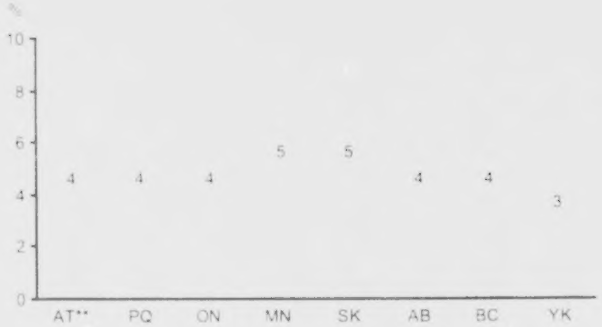
Housing density is greatest in Manitoba and Saskatchewan, with an average of five persons per household. Where housing density is high, overcrowding may also be an issue. Overcrowding is associated with social problems, such as the lack of affordable housing, and is implicated in some health problems, such as the spread of respiratory disease. It is important to recognize that housing density does not necessarily indicate a health or social problem.

6

Housing Density*

Provinces and Territories, 1995-1996



* Housing density = persons per house
** AT = Atlantic region
Note: Data for the Northwest Territories were excluded.
Source: Department of Indian and Northern Affairs Canada. 1997. *1996 Housing and Infrastructure Assets: Summary Report.*

6 - 4

Food and Environmental Contaminants

- For Aboriginal Peoples, country food is an essential component of bodily health and spiritual well-being.
- A diet high in a wide range of country foods is very nutritious. A diet high in store-bought foods can also be highly nutritious but often is not, as many popular store-bought foods are highly processed and high in salt and fat.
- In addition to nutrition, country foods, particularly fish, marine mammals, and marine birds and their eggs are a source of exposure to certain environmental contaminants. Many of the fresh foods purchased in stores may be contaminated with high levels of pesticides. Canned goods are also a potential source of exposure to contaminants.
- Aboriginal Peoples, like all people living in the twenty-first century, need to balance the nutritional benefits of certain country foods against possible risks. For example, one possible way to balance concerns about nutrition against concerns about exposure to contaminants when eating the meat of marine mammals is to omit eating the organ meat.

Sources: Hodgins, S. 1997. *Health and What Affects it in Nunavik: How is the Situation Changing.*
Indian and Northern Affairs Canada. 1997. *Canadian Arctic Contaminants Assessment Report.*
National Research Council. 1993. *Pesticides in the Diets of Infants and Children.*

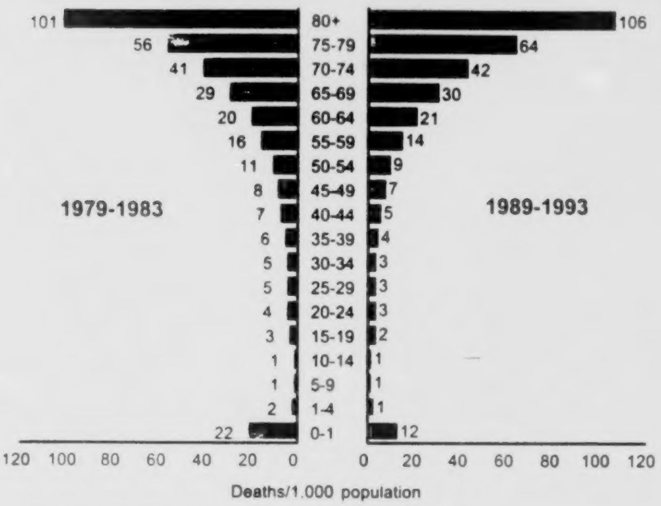
Aboriginal Peoples who consume large quantities of "country" food, particularly fish, marine mammals, and marine birds and their eggs, while benefitting from the nutritional value of the food, are exposed to relatively high levels of environmental contaminants. Balancing the nutritional, socio-cultural and spiritual benefits of the food against the potential health risks associated with exposure to environmental contaminants is a challenge in communities where the consumption of "country" foods is common.

Death

An examination of age-specific mortality rates demonstrates that the trend is towards greater longevity for First Nations peoples. The rate of death for children aged 19 years and under has declined. This is undeniably a positive trend; however, longer life does not necessarily indicate a trend towards greater health throughout the life cycle. Age-specific mortality rates are a crude reflection of a population's well-being.

6-45

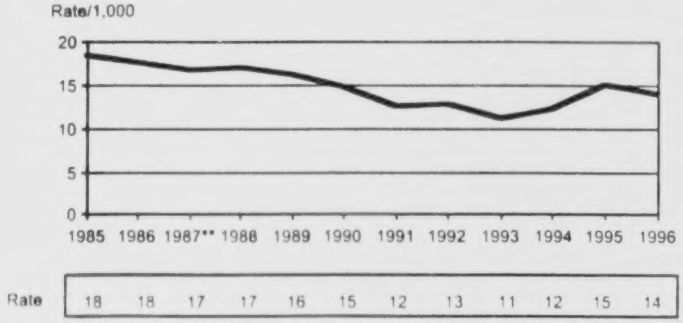
Age-Specific Mortality Rates, First Nations
1979-1983 and 1989-1993



Source: Health Canada. 1996. *Trends in First Nations Mortality, 1979-1993.*

6-46

Registered Indian Population, Infant Mortality Rates
Canada*, 1985-1996



*British Columbia data were not included in the counts and rates for 1985 and 1986 only; counts and rates for 1995 and 1996 do not include Atlantic Region.
** Rates since 1987 no longer include N.W.T. Indians
Note: Mortality rates correspond to the population served by Health Canada.
Source: Department of Indian Affairs and Northern Development. 1999. *Basic Departmental Data, 1998.*

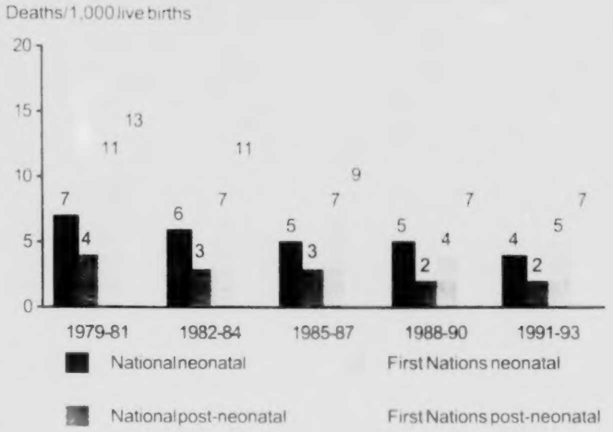
The Registered Indian infant mortality rate fell steadily during the last twenty years until, in 1993, it approximated the 1979 national infant death rate. Between 1993 and 1996, the infant mortality rate for the Registered Indian population rose slightly.

Dramatic improvements have been made in Aboriginal neonatal health, such that the difference between the national and Aboriginal rates is less significant. This can be attributed, in part, to improved prenatal and postnatal care and services and, in part, to improved maternal health and health behaviours. Since 1979-81, the mortality rate for the post neonatal period has declined in the Aboriginal and national populations. In 1979-81 and in 1991-93, the Aboriginal post-neonatal mortality rate was roughly 3.5 times that of the national population.

6

Neonatal and Post-neonatal Mortality Rates, First Nations and National Population

Three Year Averages, 1979-1993

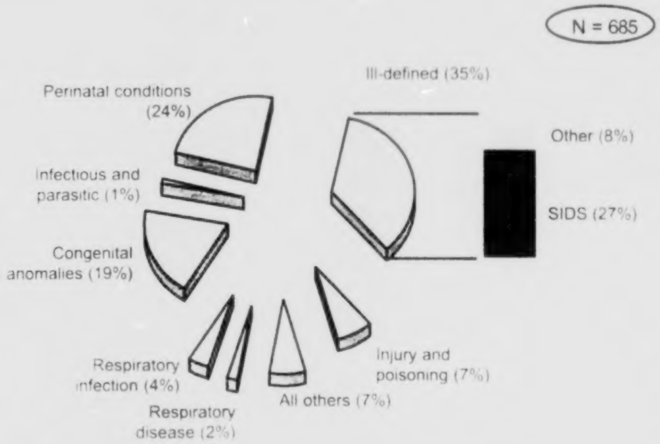


Source: Health Canada 1996 *Trends in First Nations Mortality, 1979-1993*

6 - 8

Causes of Infant Mortality as a Percentage of Total Deaths

First Nations, 1989-1993



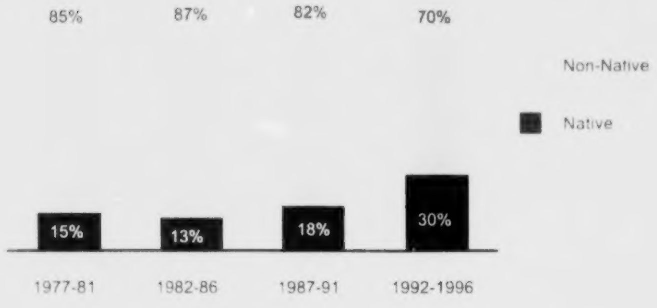
Source: Health Canada 1996 *Trends in First Nations Mortality, 1979-1993*

Perinatal conditions and Sudden Infant Death Syndrome are the leading causes of death for Aboriginal infants. Some provinces, such as British Columbia and Manitoba, have found that Aboriginal infants are over-represented in SIDS deaths. Placing a baby on the back to sleep, avoiding exposure to tobacco smoke during and after pregnancy, not letting a baby overheat, keeping the sleeping area free from pillows, extra blankets and stuffed toys, and breastfeeding can reduce the risk of SIDS.

Although there has been no change in the absolute number of SIDS deaths in the Aboriginal population, there has been a fall in the number of SIDS deaths in the non-Aboriginal population. Consequently, SIDS cases from Aboriginal families are an increasing proportion of all SIDS deaths in Alberta. In 1992-96, Aboriginal people accounted for 2.7% - 4.8% of the population of Alberta, but approximately one third of all SIDS deaths. Research is needed to better understand the persistent high mortality rates from SIDS among Aboriginal people in Alberta and culturally-appropriate programs to modify known and suspected risk behaviours are urgently needed.

6-9

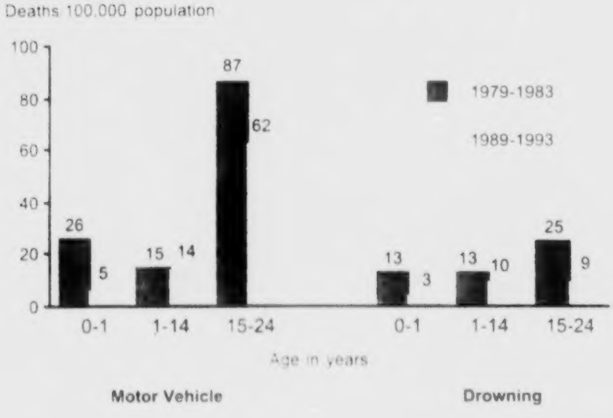
Proportion of Total Sudden Infant Death Syndrome Cases
Native and Non-Native
Alberta, 1977-1996



Source: Personal communication with Dr. I. Mitchell

6-10

Motor Vehicle and Drowning Death Rates
First Nations, 1979-83 and 1989-93



Source: Health Canada, 1996. *Trends in First Nations Mortality, 1979-1993*

Fewer First Nations infants and youth are dying as a result of motor vehicle accidents. The death rate for children 1 to 14 has not shown the same dramatic improvement. Drowning mortality rates have declined for all ages. As with motor vehicle mortality, the smallest improvement was seen in children ages 1 to 14 years. This suggests that school aged children and parents should be specific targets of safety education and safety measures.

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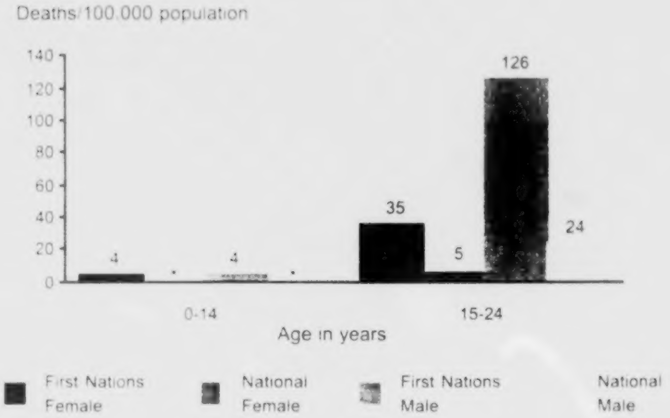
The suicide rates for Aboriginal youth are alarming. Although small, the rate of suicide for Aboriginal children under 14 years of age is of concern. For the same age group, the national rate is less than one. The rate for male Aboriginal youth is more than 5 times that of male national youth. For female Aboriginal youth it is almost 8 times that of female national youth. Mental health promotion is essential, as are opportunities for young people to participate in higher education, paid and volunteer work, recreation, sports and community life. "I don't like to look at [suicide] as a problem but more like a symptom of problems that exist within communities." Qajaaq, aged 22 years, Nunavut.

6

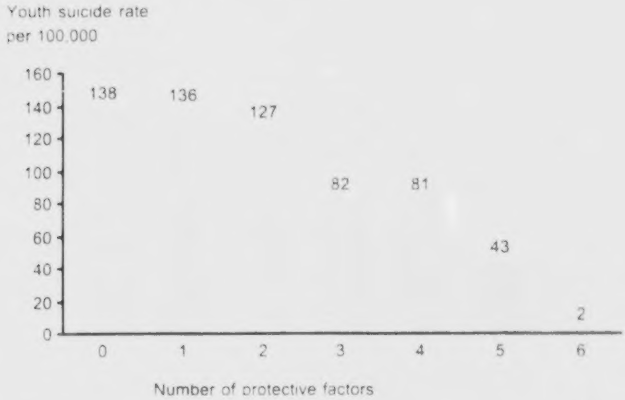
Suicide Death Rates by Age Group
First Nations and Canadian Populations, 1989-1993



*Numbers too small to report
Source: Health Canada. 1996. *Trends in First Nations Mortality, 1979-1993*

6

Youth Suicide Rates by Number of Cultural Continuity Factors* in Aboriginal Communities
British Columbia, 1987-1992



* Cultural factors include self-governance, land claims negotiation, cultural facilities (as defined by the band) and local control over education, health services, and police/fire services.
Source: Chandler, M.J. and Lalonde, C.E. 1998. Cultural Continuity as a Hedge Against Suicide in Canada's First Nations. *Transcultural Psychiatry*.

According to Chandler et al (1998), there is a strong inverse relationship between the level of cultural continuity in a community and the youth suicide rate. The six protective cultural factors they measured are self-governance, land claims negotiation, cultural facilities (as defined by the band), and local control over education, health services, and police/fire services. The presence of three or more protective factors in the community was associated with a substantial decrease in the youth suicide rate.

Native Children and the UN Declaration on the Rights of the Child

By Mr. Kenn Richard

Native children are fairing so poorly because of complex historical and contemporary dynamics that play themselves out both on our reserves and in our cities. Instead of acknowledging the victims of its colonial processes, Canada has historically undertaken to remove children, first through the residential school system and, more recently, through the child welfare system. The *CICH Profile* will serve to remind us that these children are still with us and that it is time to deal with the fundamentals at play and to take appropriate actions.

Those actions must be guided by the United Nations Declaration on the Rights of the Child. Canada became a state party to the declaration and signed off with much flourish and fanfare. Prime Minister Mulroney was portrayed as a champion of children and cleverly put this country forth as a model for the rest of the world.

Article 3 of the Declaration states that the best interests of the child shall be primary in all actions undertaken by the state. Article 4 states that the state shall undertake all measures possible to ensure that the economic, social and cultural rights of children are upheld. Articles 26 and 27 affirm the child's right to an adequate standard of living and compels the state to provide assistance to parents in implementing this right. Article 5 states that all parties shall respect the integrity of the extended family and of traditional communities. This is elaborated in Article 8 which directs parties to respect the child's right to their identity and to take steps to preserve it. Other articles reference the right to be free from discrimination, the right to both survival and development, the right to the highest attainable standard of health and the right to leisure and recreation.

Even a cursory examination of this CICH report will reveal that Canada has far to go in achieving its obligations under the declaration. The "best interest" provision, especially in consideration of historical realities, seems to translate to the best interest of the state, not the Native child. The socio\economic provisions have never been upheld and, in reality, the signing of the Declaration coincided with a wholesale sacrifice of all vulnerable children to the gods of "deficit reduction" and "fiscal responsibility". Articles related to culture and identity are, to a small extent, being addressed, yet the rate of loss of Native languages, a cornerstone of culture and identity, is escalating dramatically.

The facts of life for the Native child stand in contrast to the ideals espoused by the Declaration. While governments at all levels are beginning to reinvest in Native children both on and off-reserve, it may, in fact, be too little too late for many. Remedial programs that selectively target certain children in certain areas will help those children but it will take more than this to alter the stark multi-generational reality that confronts most Native children. Such programs, instead of targeting issues like poverty head on, attempt to minimize the social impact of the problem without ever acknowledging the structural issues at play. Until an honest dialogue emerges on the breadth and depth of such issues, and the structural alterations needed to move forward, we cannot expect the disturbing news contained in this document to improve appreciably over time.

Kenn Richard is the founding director of Native Child and Family Services in Toronto. Kenn's family originates from the oldest Métis settlement in Manitoba. He holds an MSW and teaches intercultural practice at the University of Toronto. He is also a Principal with Miiheegan Associates, a company specializing in Aboriginal human service development and evaluation.

The state of the Aboriginal child, as reported and elaborated in The Health of Canada's Children: A CICH Profile, ***can only serve to make all those concerned with the good and welfare of Native children ponder those declarations stating that this country is one of the best in the world in which to be a child. In reality, the information reported here flies in the face of any smug notions that things are all right with Native children and serves as a wake-up call to us all.***

CHAPTER SEVEN

Chapter 7

Income Inequity

To be measureable, poverty must first be defined. Within this chapter, CICH uses the Statistics Canada Low Income Cut-Offs (LICOs). Although Statistics Canada does not regard the low income cut-offs as "poverty lines", the LICOs remain the most widely used measure of poverty in Canada. This popularity stems, in part, from their proven utility over time and, in part, from the fact that the LICOs tend to be consistent with what people in Canada perceive as economic hardship. The low income cut-offs indicate gross income levels below which families must spend a disproportionate amount of their income on food, clothing and shelter. The low income cut-offs are adjusted for family size and community size in order to take into account differences in basic expenditures.

How do people in Canada perceive people living in poverty?

Canadians have mixed feelings about people in poverty. Almost one in three Canadians believe that people live in poverty as a consequence of their own laziness. Conversely, one in three Canadians believe that social injustice is the cause of poverty. Understanding the vulnerability of people living in poverty, especially the children and their inequity of opportunity, is essential if Canadians are to move beyond ambivalence and generate a momentum for change.

Income Inequity

Research demonstrates that wide disparities in wealth are intricately connected with the health of a population. Thus, in general, the greater the level of income inequity in a country, the poorer the population health. The lesser the level of income inequity, the better the population health. Those with the lowest incomes have the worst health outcomes, but the negative impact of inequity is felt among all Canadians.

Although children in families living in poverty (below the Statistics Canada Low Income Cut-offs) are at elevated risk for many physical and mental health problems, the majority of children with these problems will not come from poor families. This is true because the majority of families with children do not live in poverty. Thus, in terms of absolute numbers, more children with problems will come from families who are not living in poverty than from families that are. Given this distribution of children with problems, successfully reducing physical and mental health problems in children will require an effective mix of universal and targeted programs.

Who lives in poverty in Canada?

Many factors are associated with living in poverty. Approximately one in four children under 7 years of age live in poverty. Approximately one in three children under 15 years of age with a disability live in poverty. About one in two Aboriginal children under 15 years of age live in poverty. About one in two children in families new to Canada live in poverty. More than one in two children living with a lone-mother live in poverty. Many families in Canada are only one illness, job loss, or divorce/separation away from poverty. Generally, families move in and out of poverty over time. However, some circumstances, such as lone parenthood, can reduce the likelihood of moving out of poverty.

What are the trends in child poverty?

The absolute number of children living in poverty grew by over 700,000 between 1981 and 1996, despite a House of Commons all-party resolution in 1989 to eliminate child poverty by the year 2000. One in four children under 7 years of age lived in poverty in 1996 compared with approximately one in eight in 1981. Given the importance of the early years to the long-term healthy development of children, the high rate of poverty for families with young children is a cause for serious concern. Since the early 1990s, poor two-parent families have been experiencing a greater depth of poverty than lone-mother families. Depth of poverty refers to how far below the poverty line a family's income falls. Lone-mother families continue to have a higher poverty rate.

Do government measures, such as the tax and transfer system and minimum wage legislation, create income equity in Canada?

An examination of income quintiles reveals major inequity in the distribution of labour market earnings. This inequity is evident both before and after the redistribution of income through the tax and transfer systems. Families that rely on income from social assistance programs live in poverty in all provinces and territories. Further, families with minimum wage earners must work impossibly long hours if they are to avoid living in poverty. Parents working for minimum wage work long hours, yet still live in poverty, a situation which creates real challenges to family life and the raising of children.

Are housing and food security ensured in Canada?

Many families, even two-earner families, must spend a disproportionate amount of their income on housing. Many such families live in housing that is cold, damp, moldy, unsafe and overcrowded. Low income families are more likely to live near high traffic corridors or in unsafe neighbourhoods. In other words, many families live in housing arrangements that are inadequate, unsuitable or unaffordable. One term used to describe their circumstances is "housing need". Families that live in housing need are often in a precarious state: illness, or the loss of a job, can result in homelessness. Unfortunately, families with children are a fast-growing segment of the homeless population.

To have food security, families must have confidence that they have and will continue to have enough money to buy an adequate amount of nutritious food to feed all their members. The use of food banks in Canada indicates that many families lack food security. Children represent a large proportion of recipients of food from food banks. A small but worrisome proportion of families with children report having experienced periods of hunger. Aboriginal children and their families are at elevated risk of both food and housing insecurity.

What is the relationship between income and health and well-being?

The relationship between income and health is evident from the moment of conception. A low level of family income is associated with a higher rate of low birth weight and, potentially, with higher rates of adverse health effects stemming from the low birth weight, such as chronic illnessess, developmental delays and disabilities. Boys from low income families have a substantially higher injury death rate than their peers from higher income families, a fact that reflects in part the unsafe neighbourhoods they live in, and the often unsupervised and unsuitable activities in which they engage. The poorest children in Canada are at substantially higher risk for dying in a fire or homicide. These elevated risks highlight the living conditions of families living in poverty, too often characterized by poor quality housing in unsafe neighbourhoods.

Children from families with the lowest incomes are more likely to exhibit symptoms of hyperactivity, conduct disorder and emotional problems, and to engage in delinquent behaviours. These problems can negatively affect many aspects of the child's and the family's daily life, undermining healthy development. Children living in lower income families are more likely to live with a depressed parent. They are more likely to experience low academic achievement. They are less likely to engage in organized sports and recreational activities, activities that promote self-esteem and confidence as well as physical health. Clearly, living in lower income families can undermine the health and well-being of children in ways that have profound and lasting consequences.

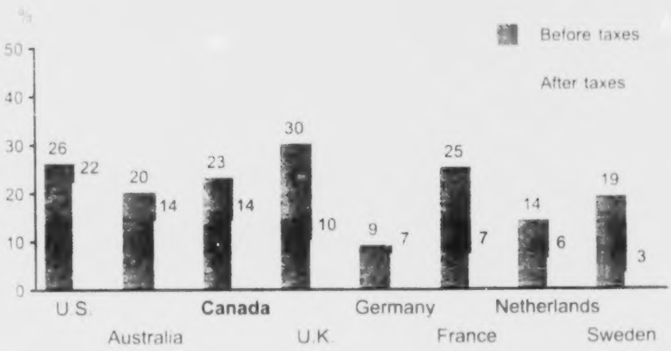
> ***“Many families in Canada are only one illness, job loss, or divorce/separation away from poverty.”***
>
> **Dianne Rogers,**
> **Director of Child and Family Programmes at CICH,**
> **Ottawa.**

Child Poverty in International Context

Redistribution of income through taxes can effectively reduce child poverty. In some countries, such as the United States, the poverty rate for children is only marginally reduced after taxes. In other countries, such as Sweden and France, the child poverty rate is reduced very substantially after taxes. Canada's tax system falls somewhere in the middle. Note: this chart reports on poverty as defined by the Luxemburg Income Study.

7

Poverty Rates of Children in Selected Industrial Countries
Canada and International, Mid-1980s and Early 1990s



Source: National Council of Welfare, 1999. *Preschool Children: Promises to Keep*

7

Attitudes Toward People Living in Need, by Gender
Canada and United States, 1994

	Canada		United States	
	Male (%)	Female (%)	Male (%)	Female (%)
Unlucky	9	9	8	8
Laziness	35	29	40	38
Social injustice	30	33	31	34
Part of progress	23	23	18	16
None of the above	4	6	3	4

Source: Phipps, S. 1999. *An International Comparison of Policies and Outcomes for Young Children*. CPRN Study No. F5

Perceptions

Both Canadians and Americans are divided when it comes to their beliefs about people living in need. In Canada, an estimated 1/3 of the respondents agreed that people live in need as a consequence of their own laziness. In the U.S., this was the case for roughly 2/5 of respondents. On the other hand, roughly 1/3 of the respondents in Canada and the U.S. agreed that people live in need as a consequence of social injustice. According to Cohen (1997), attitudes in Canada toward people who are poor are less and less sympathetic. Those "poor" who are deemed "undeserving" may be doubly victimized. Unfortunately, particularly vulnerable groups, such as lone mothers with young children, are often categorized as "undeserving" (Peters, 1998).

According to Reutter et al (1999), the majority of Albertans (75%) agreed with the statement that poverty leads to poor health. This demonstrates public recognition of poverty as a determinant of health. The survey also found that most Albertans (64%) agreed with the statement that people become poor after they get sick and cannot work. This position is supported by numerous experts who aver that many Canadians are only one illness or one divorce/separation away from poverty. Finally, the survey found that Albertans were divided over the issues of personal responsibility with 35% of respondents agreeing with the statement that poor people are unhealthy because they don't look after themselves. This last perspective could contribute to a "blame the victims" approach to poverty and health issues.

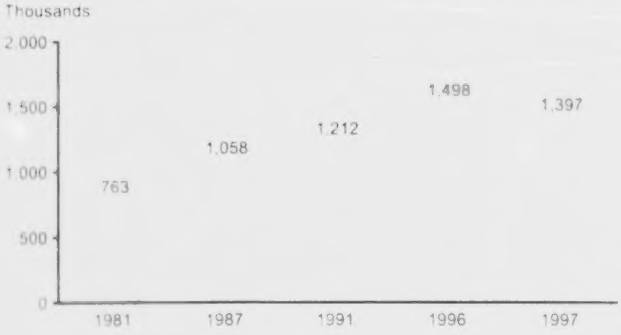
Percentages of Respondents Agreeing or Disagreeing With Statements About the Relationship Between Poverty and Health
Alberta, 1996

	Disagree (%)	Neutral (%)	Agree (%)
Poverty leads to poor health	**16**	**9**	**75**
People become poor after they get sick and are unable to work	22	14	64
Poor people are unhealthy because they aren't motivated to look after their health	**52**	**14**	**35**

Note: Percentages may not total to 100%, due to rounding

Source: Reutter, L. et al. 1999. Public Perceptions of the Relationship between Poverty and Health. *Canadian Journal of Public Health*. Vol. 90 No.1

Number of Children Living in Poverty, Under 18 Years
Canada, 1981, 1987, 1991, 1996 and 1997



Source: Statistics Canada. 1998. *Low Income Persons, 1980-1997.*
Hanvey et al. 1994. The Health of Canada's Children: A CICH Profile.

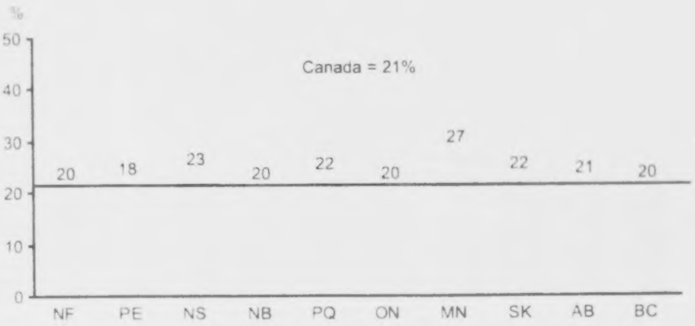
How Many Poor Children Live in Canada?

The number of children living in poverty grew by over 700,000 between 1981 and 1996 despite a House of Commons all-party resolution in 1989 to eliminate child poverty by the year 2000. CICH and other concerned organizations will continue to watch the slight decrease in the number of children living in poverty recorded in 1997. Children who live in poverty encounter more hurdles to healthy development and are, consequently, at an elevated risk for a wide range of negative health outcomes. Increases in the number of children living in poverty in Canada in a time of relative prosperity reflect a worsening income gap.

In 1996, the poverty rate was high across the country for children under 18 years of age, with a low of 18% in Prince Edward Island and a high of 27% in Manitoba. All other provinces fell within the narrow range of 20% to 23%. Child poverty is, thus, a problem in every province of the country.

7

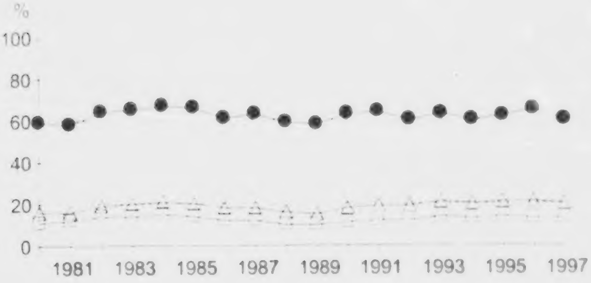
Rate of Poverty for Children, Under 18 Years
Canada and Provinces, 1996



Source: Special runs conducted for CICH by the Canadian Council on Social Development using Statistics Canada's Survey of Consumer Finances Micro-data.

7

Rate of Poverty for Children in All Families, in Two-parent Families and Lone-mother Families
Canada, 1980-1997



Lone-mother families ●	58	65	66	63	58	64	63	62	60
All families* △	16	20	20	18	15	19	21	21	20
Two-parents ☐	12	14	14	12	10	12	14	14	13

* All families with children
Source: Special runs conducted for CICH by the Caledon Institute

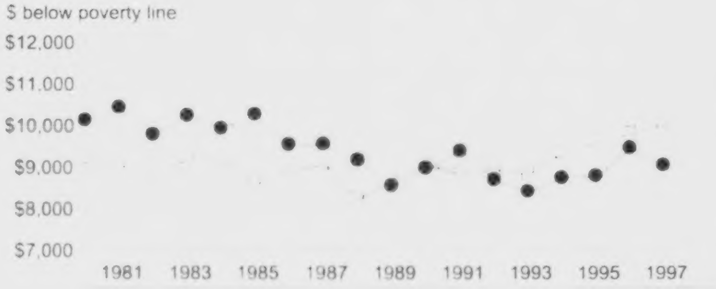
The rate of poverty for children in lone-mother families is dramatically higher than the rate for children in two-parent families. Because lone-mother families are more likely to live in poverty and because poverty is a powerful determinant of health, children in lone-mother families are at an elevated risk for various physical, behavioural and emotional problems. It is, however, important to remember that, because the majority of children live in two-parent families, the majority of families living in poverty are also two-parent families. (This explains why the rate for children in "all families" is very close to the rate for children in two-parent families.) The rates for each of the three groups were relatively stable between 1981 and 1997.

Depth of poverty refers to how far below the poverty line a family's income falls. For those families living in poverty, the average depth of poverty has consistently been substantial. Throughout the 1980s, the depth of poverty for poor lone-mother families was greater than the depth of poverty for poor two-parent families. Thus, lone-mother families were more likely to live in poverty and more likely to be deeper in poverty. This began to change in the late 1980s and, by the early 1990s, two-parent families living in poverty were experiencing a greater depth of poverty than lone-mother families. Lone-mother families continued, however, to have a higher rate of poverty.

7

Depth of Poverty for Two-parent and Lone-mother Families

Canada, 1980-1997



	1981	1983	1985	1987	1989	1991	1993	1995	1997
●	10,411	10,216	10,249	9,540	8,539	9,372	8,395	8,776	9,036
☐	9,045	9,204	8,582	9,069	8,698	8,834	8,815	9,593	10,057

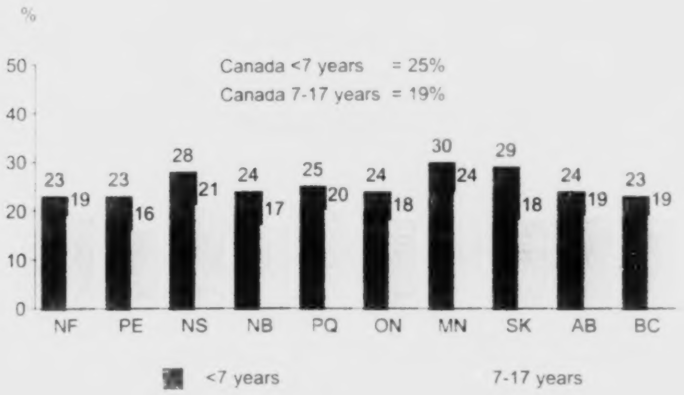
● Lone-mother families ($) Two-parent families ($)

Note: In 1997 dollars
Source: Special runs conducted for CICH by the Caledon Institute.

7 - 8

Rate of Poverty for Children Under 7 and Between 7 and 17 Years

Canada and Provinces, 1996



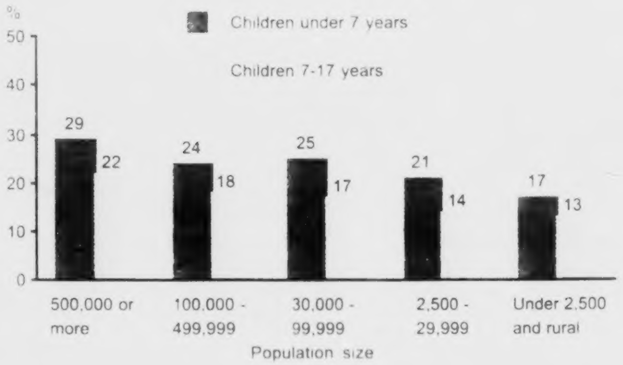
Source: Special runs conducted for CICH by the Canadian Council on Social Development using Statistics Canada's Survey of Consumer Finances Micro-data.

In all provinces, younger children are at greater risk of poverty than older children. The national poverty rate for children under the age of 7 climbed to 25% in 1996. It was 13% in 1981 and 21% in 1991(Hanvey et al, 1994). As more and more research highlights the importance of investment in the early years of children's lives, these rates are a cause for serious concern. The higher rate of poverty for younger children is due, in part, to the lack of sufficient, affordable child care. When children get older, the school system takes over this role, enabling parents to balance family and work responsibilities and reducing the level of poverty.

Poverty rates increase with the population size. This is attributed, in part, to the higher housing and living costs associated with living in cities. Cities are also the location of choice for most families new to Canada who, understandably, may take a while to establish themselves financially in a new country. The need for child care is a problem in Canada regardless of population size and is a factor elevating the risk of poverty for children under 7 and their families.

7 - 9

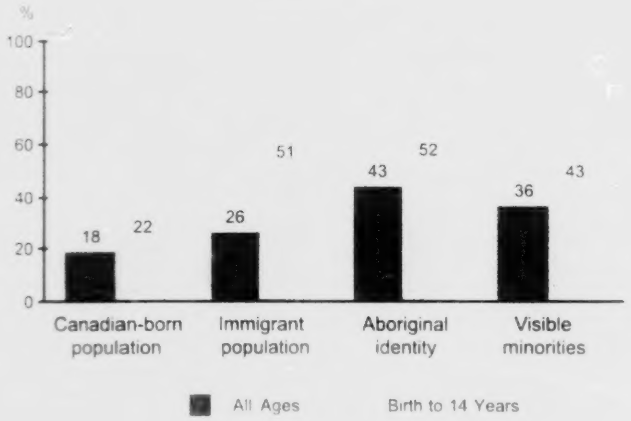
Rate of Child Poverty by Community Population Size, Under 7 and 7-17 Years
Canada, 1996



Source Special runs conducted for CICH by the Canadian Council on Social Development using Statistics Canada's Survey of Consumer Finances Micro-data.

7 - 10

Poverty Rate, Selected Population by Age
Canada, 1995



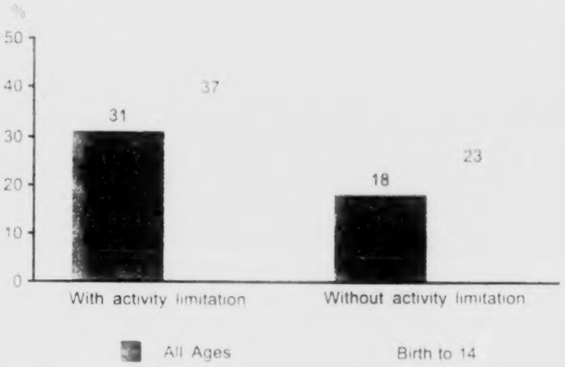
Source: Canadian Council on Social Development. 1998. *The Progress of Canada's Children 1998 - Focus on Youth.*
Special runs conducted for CICH by the Canadian Council on Social Development using Statistics Canada's 1996 Census.

Certain populations in Canada are at greater risk of poverty than others. Across Canada, about one in five children from birth to 14 years of age lived in poverty in 1995. On the other hand, in 1995, about one in two Aboriginal and immigrant children of comparable age in Canada lived in poverty. Children who belong to visible minorities are also at elevated risk of poverty. Unlike Aboriginal people and people who belong to a visible minority group, immigrants to Canada do not have the same high rate of poverty throughout the life cycle; the poverty rate for all ages for immigrants was about one in four in 1995. The high rate of poverty during the childhood years for immigrants may be indicative of a period of family readjustment in a new country.

In 1995, the poverty rate for those with an activity limitation caused by disability or health impairment was significantly higher (31%) than the poverty rate for families with children without an activity limitation (18%). Families with children up to the age of 14 years with an activity limitation had the highest poverty rate (37%). The families of children with disabilities must often reduce their workforce participation in order to care for their children in the absence of appropriate child care, respite, and family responsibility leave policies. One consequence is reduced family income.

7

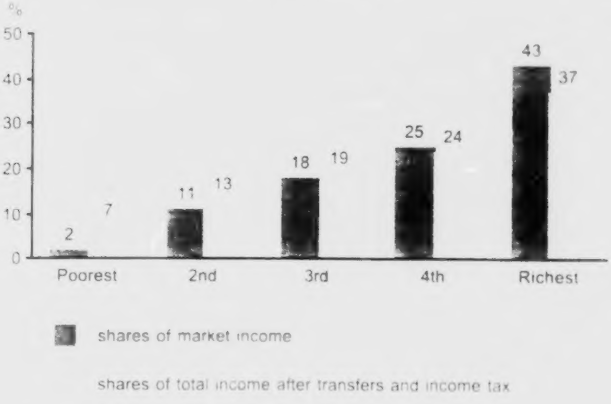
Poverty Rate, by Activity Limitations and Age
Canada, 1995



Source: Canadian Council on Social Development. 1998. *The Progress of Canada's Children 1998 - Focus on Youth.*

7

Income Quintile, Families with Children Under 18 Years
Canada, 1996



Note: Percentages may not total 100%, due to rounding.

Source: Special runs conducted for CICH by the Canadian Council on Social Development using Statistics Canada's Survey of Consumer Finances Micro-data.

Determinants

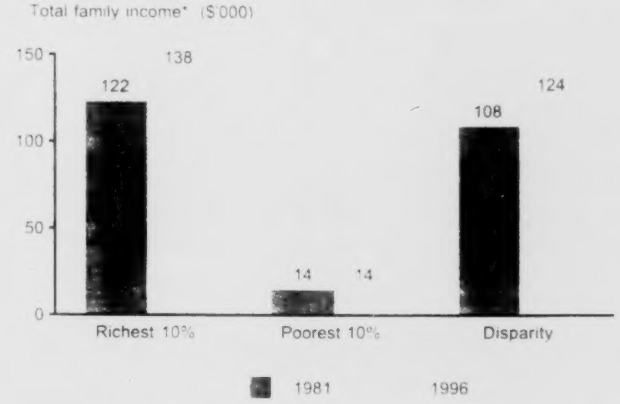
Income and Social Supports

When the population is divided into five groups of the same number of people, ranked according to income, these groups are called income quintiles. Looking at income by quintiles reveals that there is marked inequality in the distribution of labour market earnings. This inequality is offset, to some small degree, by the tax and transfer systems in Canada. In 1996, the poorest 20% of the population earned about 2 cents out of every dollar earned in Canada before taxes and transfers. After taxes and transfers, they earned 7 cents out of every dollar. The richest 20% earned 43 cents out of every dollar before taxes and transfers and 37 cents after.

Canada's population is becoming polarized on the basis of income into "haves" and "have-nots". When one compares the average incomes of the richest 10% and the poorest 10%, the disparity is pronounced. In 1996, the richest 10% made an average of $138,000 and the poorest an average of $14,000. Clearly, the poorest families in Canada have insufficient money with which to purchase the goods and services that promote the healthy development of their children.

7 - 1 3

Income Disparity Among Families with Children Under 18 Years
Canada, 1981 and 1996

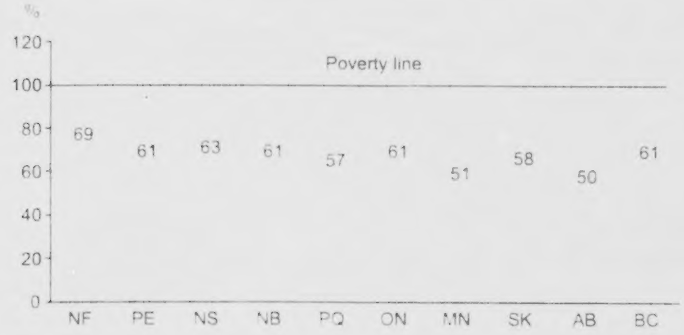


* Includes income support
Note: in 1996 dollars.

Source: Yalnizyan, A. 1998. The Growing Gap. In *Toward a Healthy Future: Second Report on the Health of Canadians*.

7 - 1 4

Social Assistance as a Percentage of LICO* ("Poverty Line"),
Single Parent, One Child
Provinces, 1998



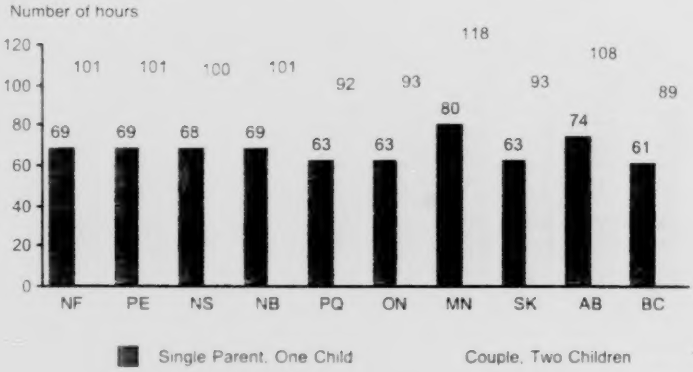
* LICO = Low income cut-offs by Statistics Canada. Statistics Canada does not refer to LICO as a poverty line.
Source: National Council of Welfare. 1999-2000. *Welfare Incomes, 1997 & 1998*.

When one compares social assistance to the Statistics Canada low income cut-offs, commonly referred to as "poverty lines", the picture that emerges is bleak. In 1998, across Canada, social assistance provided lone-parent families with one child with income that amounts to between 50% (in Alberta) and 69% (in Newfoundland) of the poverty line. Social assistance, therefore, did not provide these families with adequate incomes to ensure that they could meet their needs. Housing and food security for these families is jeopardized. Families with children are increasingly represented among the population using homeless shelters or emergency food services.

To reach the Statistics Canada low income cut-offs, families working for a minimum wage must work long hours. This is true for two-parent families as well as lone-parent families. Depending on the province, lone-parent/one-child families needed to work between 61and 80 hours per week in 1996. Two-parent/two-child families needed to work between 89 and 118 hours per week. For both family types, the hours required were longest in Manitoba and shortest in British Columbia. Numerous studies have shown that families working under these conditions often experience extreme stress, which can compromise family functioning. Raising the minimum wage would assist families in balancing work and family responsibilities.

7-15

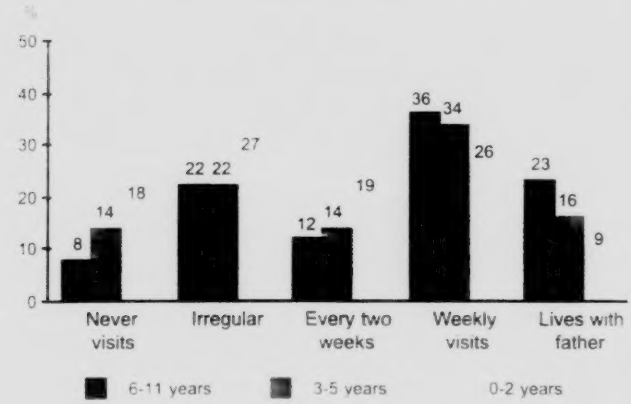
Hours Per Week at Minimum Wage Necessary to Bring Families Up to the Poverty Line, by Family Type
Canada, 1996



Source: Special runs conducted for CICH by the National Council of Welfare.

7-16

Percentage of Children Having Contact with Their Father After Separation, by Age Group
Canada, 1994-1995



Source: National Council of Welfare, 1999, *Preschool Children: Promises to Keep*

According to the 1994-95 NLSCY, the majority of children live primarily with their mothers following the separation of their parents. Many of these children have regular contact with their father after the separation. About one in three children, however, see their father on an irregular basis or not at all. According to the National Council of Welfare (1999a), there are both personal and financial consequences to irregular visits or no visits. Not only do children lose the personal support of their father, they often lose their financial support as well. Fathers who do not visit regularly with their children are the least likely to pay child support.

Housing and Food Security

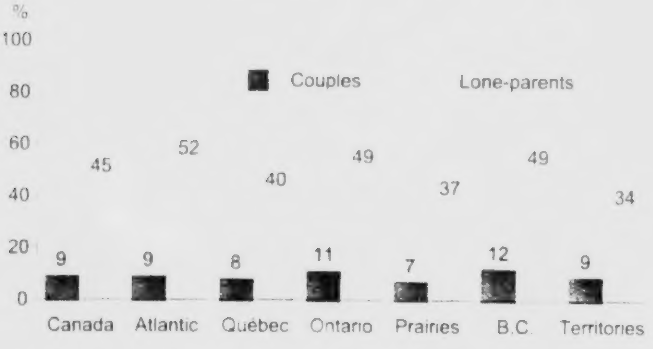
The cost of housing is a contributing factor to poverty and to homelessness. Many families, even two-earner families, must spend disproportionate amounts of their income on housing alone. In recent years, governments have backed away from subsidized housing. There are now large waiting lists in many cities for assisted housing. In Toronto, over 21,500 families with children were waiting for assisted housing in 1998.

Assisted Housing Waiting Lists in Large Urban Centres as of December
Selected Cities, 1998

	Families with children	Total
Calgary	1,091*	3,005
Saskatoon	800	1,600
St. John's	116	293
Toronto**	21,557	41,139
Vancouver***	5,235	8,196
Winnipeg	949	2,016

* This number represents the number of families with children on waiting lists for the three main social housing providers in Calgary which account for 2,295 out of 3,005 social housing units.
**Includes a few households with dependent members who are not children.
***These are the March 1999 totals.
Source: Federation of Canadian Municipalities. 1999. *National Housing Policy Options Paper: A Call for Action.*

Proportion of Lone-parents/Couples with Children Under 18 Years Living in Housing Need
Canada and Regions, 1996



Source: Special runs for CICH conducted by Canada Mortgage and Housing Corporation. John Engeland and Cynthia Piche, 1999.

In all provinces and territories, a significantly higher proportion of lone-parent families live in housing need than two-parent families. "Housing need" is measured by the Canada Mortgage and Housing Corporation using three standards: suitability, adequacy and affordability (less than 30% of income). A household is considered to be in housing need if one or more of these standards are not met. Housing need increases the likelihood of living in a dwelling that is cold, damp, unsafe, overcrowded, in a high traffic and/or unsafe neighbourhood, all risk factors for illness and injury. Housing need also increases the likelihood of frequent moves, which disrupt the social networks of children, youth and adults alike and which can be detrimental to psychosocial health and well-being (Townsen, 1999).

Hunger undermines the healthy development of children and threatens their overall well-being. Food banks and other emergency food programs are not adequate responses to the problem of food insecurity in Canada. Monitoring the capacity of social programs, such as the Child Tax Benefit and the Working Wage Supplement, to assure that the basic needs of lower income families are met is essential.

7 - 19

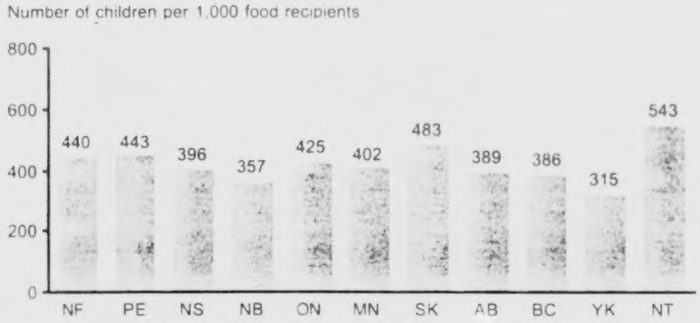
Hunger

- Hunger, defined as "the inability to obtain sufficient nutritious, personally acceptable food through normal food channels or the uncertainty that one will be able to do so", is experienced by a small percentage of families in Canada.
- Low income, particularly earnings from social assistance or welfare, lone parenthood, maternal smoking and the poorer health status of mother and children are associated with hunger.
- Aboriginal people are particularly at risk of hunger.
- Parents often go without so that their children can be fed. According to the NLSCY, parents are 7 times more likely to go without food than are their children.
- The most common strategies for coping with food insecurity are turning to relatives for help or receiving food from food banks. These short-term solutions are ultimately unsatisfactory.

Source: McIntyre, L. et al. 1998. *A Glimpse of Child Hunger in Canada.*

7 - 20

Proportion of Children Among Food Bank Recipients
Canada, Provinces and Territories, 1998



* Québec data not available
Source: Canadian Association of Food Banks. 1999. *HungerCount 1998: Emergency Food Assistance in Canada.*

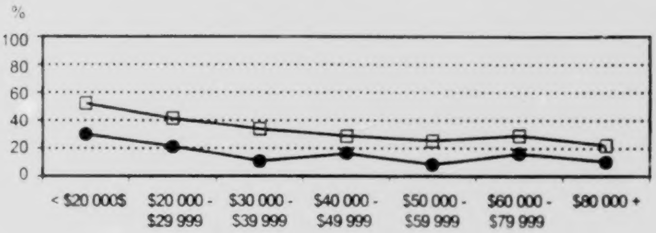
Children, who represent approximately 27% of the population in Canada, account for between 31% and 54% of the food recipients at food banks across Canada. To have food security, families must have confidence that they have and will continue to have enough money to buy adequate amounts of nutritious food to feed their members. The widespread use of food banks across Canada indicates that many families lack food security. Reliance on food banks is one example of the many challenges faced by low income families, undermining parental autonomy and limiting the ability of parents to make decisions about their children's nutrition. Food banks, intended to provide emergency food in times of need, are not a long-term solution to the problem of food insecurity.

Poor Neighbourhoods

In safe neighbourhoods, parents are much less afraid to walk alone outside after dark. In safe neighbourhoods, parents feel comfortable letting their children play outside during the day. This sense of safety contributes to mental health. Unsafe neighbourhoods increase the risk of physical harm and may undermine mental well-being. The Canadian Council on Social Development found that concerns about neighbourhood safety decreased as income increased, leveling off once incomes reached $40,000 or more. Problem neighbourhoods are places where there is drug use and drug dealing, excessive public drinking and the threat of violence. The risk of harm to children is increased in these neighbourhoods. Concerns about neighbourhood problems decreased as income increased, leveling off after $30,000.

7 - 21

Neighbourhood Safety, by Income*
Canada, 1994-1995



Percentage

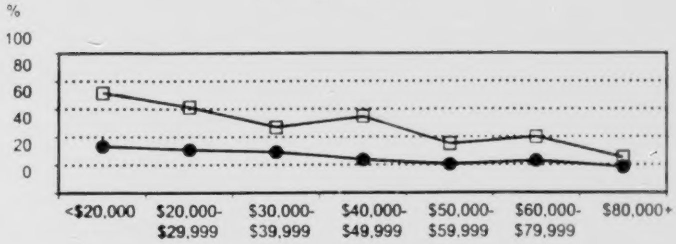
□	26	21	17	14	13	15	11
●	15	11	5	8	4m	8	5

□ Problem neighbourhoods (%) ● Unsafe neighbourhoods (%)

*Average household income.
m = Estimate less reliable due to small sample size.
Note: Calculations are based on two-parent families with children aged 4-11 years.
Source: Canadian Council on Social Development. 1999. *Income and Child Well-being: A New Perspective on the Poverty Debate.*

7 - 22

Children Rarely Participating in Organized and Unorganized Sports, by Income*
Canada, 1994-1995



Percentage

□	72	61	47	55	35	40	25
●	33	31	29	24	20	23	19

□ Organized sports (%) ● Unorganized sports (%)

* Average household income.
Note: Calculations are based on two-parent families with children aged 4-11 years.
Source: Canadian Council on Social Development. 1999. *Income and Child Well-being: A New Perspective on the Poverty Debate.*

Children living in households with lower income levels are less likely to participate in organized sports. Conversely, children with high family income levels are less likely to say that they rarely participate in organized sports. This suggests that children from families with lower incomes have less opportunity to participate in programs that encourage teamwork or that offer supervision and coaching. Participation in organized recreation and sports contributes to healthy development of children, protecting, to some extent, against emotional and behavioural problems (Offord et al. 1998). Children from families with lower incomes are also less likely to participate in unorganized sports. For urban children, this reflects, in part, the lack of suitable play spaces.

It is widely accepted that low income families are at a disproportionate risk of exposure to environmental contaminants. Given the growing polarization of family incomes in Canada, there is an urgent need to better understand the contaminant risks experienced by children from low income families. As Chaudhuri (1998: S29) states, "policy and research initiatives in environment, health and social welfare, should therefore consider the burden on poor children of exposure to environmental contaminants".

7 - 23

Low Income Families and Exposure to Environmental Contaminants

- Low income families live downwind, downstream and downhill from sources of environmental contaminants.
- They live in the most dangerous neighbourhoods and work in the most dangerous occupations. Both at home and at work, they are at increased risk of exposure to hazardous substances.
- Research indicates that, not only are poor people exposed to more hazards more often, they are also more vulnerable to the adverse effects.

Source: Pollution Probe. 1998. *The Air Children Breathe: The Effects on Their Health.*

7 - 24

What Do We Know About Families Living in Conditions of Need?

- A number of important factors that affect child health and well-being have been identified, such as: the system of support in the community, the behavioural risk factors present in the family, the financial resources available, the way family members treat one another, the way resources are shared within the family and, the way decisions are made within the family.
- All of these factors affect the capacity of families to create resilience in their children.
- Many children living in families in need grow up healthy.

Source: Corak, M. Statistics Canada 1998. Introduction. *Labour Markets, Social Institutions and the Future of Canada's Children.*

Family Life

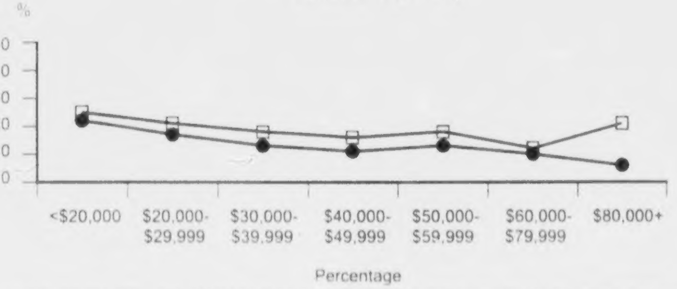
The vast majority of children live in families and the nature of these families has an enormous impact on their health and well-being. The implementation of legislation and policies that specifically avoid adverse effects on families and the communities in which they live is the responsibility of all levels of government as well as the corporate and volunteer sectors.

Stable, supportive families promote resiliency in children and youth, protecting against poor developmental outcomes. Families that are not functioning well are less able to provide these advantages. According to the 1994-95 NLSCY, although low functioning families are found in all income levels, children in low income families were twice as likely to live in families that were functioning poorly than children in high-income families. Similarly, although parents exhibiting depressive symptoms are found in all income levels, children living in low-income families are much more likely to live with a parent who exhibits frequent depressive symptoms than children in high-income families (CCSD, 1999a). Studies have shown that children living with a depressed parent are more likely to experience social, emotional or behavioural problems.

7 - 25

Children Living in Low-functioning Families, and Children Living With a Parent Who Shows Frequent Signs of Depression, by Average Household Income

Canada, 1994-1995



	<$20,000	$20,000-$29,999	$30,000-$39,999	$40,000-$49,999	$50,000-$59,999	$60,000-$79,999	$80,000+
□	25	21	18	16	18	12	21
●	22	17	13	11	13	10	6

—□— Family functioning (%)

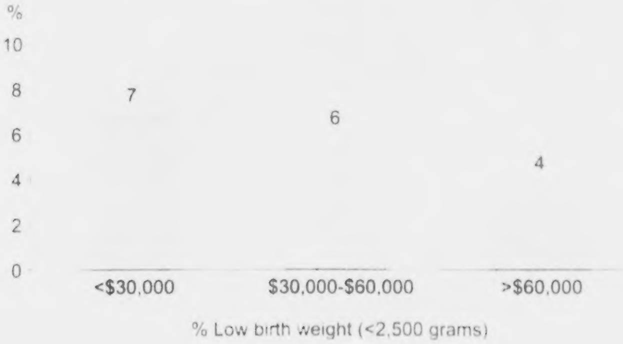
—●— Parental depression (%)

Note: Calculations are based on two-parent families with children aged 4-11 years.
Source: Canadian Council on Social Development. 1999. *Income and Child Well-being: A New Perspective on the Poverty Debate.*

7 - 26

Rate of Low Birth Weight*, by Household** Income

Canada, 1994-1995



*Less than 2,500 grams
** Parents with children up to age 3
Note: Family income levels are based on distribution of children aged 0-3 years by family income.
Source: Scott, K. 1999. *Investing in Canada's Children: Our Current Record.*

Health and Well-Being Outcomes

Healthy Babies

It has been well documented that babies born to low income parents are at increased risk for low birth weight. Research indicates that low birth weight babies from low income families are more likely to experience adverse health effects, such as chronic illness, developmental delays, disability and, in some cases, death. It is important to remember that modifying the social environment can improve outcomes. This could entail, for example, improving nutrition or reducing exposure to environmental tobacco smoke through interventions that also support positive changes in the social environment (Best Start Resource Centre, 1998).

Smoking, a major risk factor for low birth weight, is more common among women living in lower income households. To reduce the rate of low birth weight, programs to reduce socio-economic stressors and effective programs for smoking prevention, reduction and cessation that are accessible to and respectful of disadvantaged women are essential.

7

Smoking, Income and Low Birth Weight.

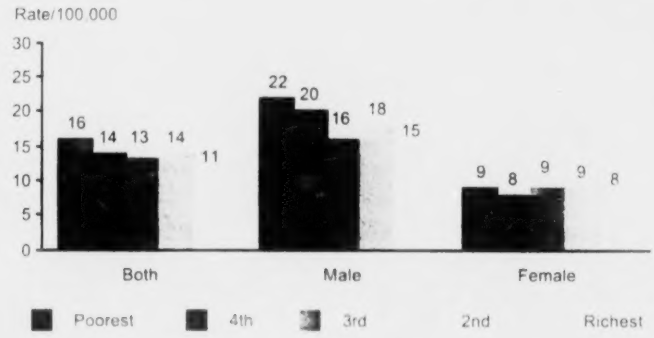
- Smoking is a major risk factor for low birth weight. According to the 1994-95 National Longitudinal Survey of Children and Youth, the rate of low birth weight among mothers who smoked during pregnancy was 7.8% compared with 5.2% among mothers who did not.
- Smoking contributes to low birth weight primarily by increasing SGA (small for gestational age) births, but it also increases the risk of preterm birth.
- Women living below the poverty level have one of the highest rates for smoking.

Sources: Best Start Resource Centre. 1998. *Prevention of Low Birth Weight in Canada: Literature Review and Strategies.* McIntyre, L. 1996. Starting Out. In Human Resources Development Canada and Statistics Canada. *Growing Up in Canada. NLSCY.*

7

Injury-related Death Rates by Income Quintile and Gender, All Injuries, From Birth to 19 Years

Canada, 1991



Note: includes only urban areas

Source: Wilkins, R. Statistics Canada. 1997. Unpublished data. In *For the Safety of Canadian Children and Youth: From Injury Data To Preventive Measures.* CHIRPP

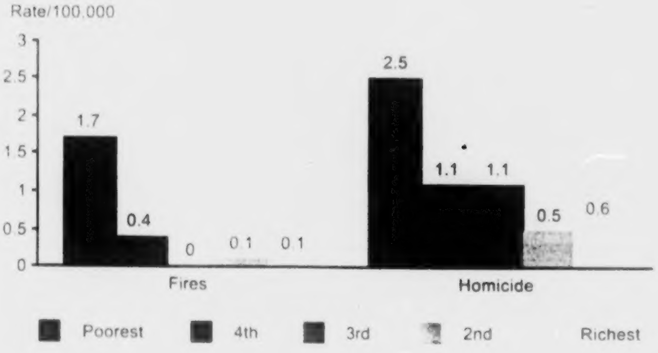
Injury

Income and injury are inversely related for boys. The higher rate of injury among male children in low income families may be attributable, in large part, to unsafe housing, often in close proximity to high traffic areas, a lack of safe play spaces and limited access to supervised recreation and sports.

For injury-related deaths, such as those by fire or homicide, income plays a clear role. The poorest 20% of the children are at a greater risk of dying in a fire. The poorest 20% of children are also at substantially greater risk of dying by homicide. Fire and homicide deaths are related to the living conditions of many poor families. For example, poor quality housing increases the likelihood of fire.

7 - 29

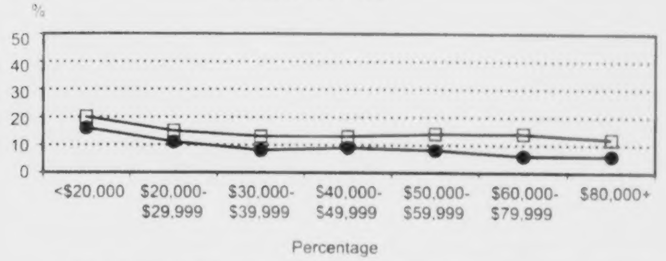
Fire and Homicide Death Rates, by Income Quintile and Category of Injury, From Birth to 19 Years
Canada, 1991



Note: includes only urban areas.
Source: Wilkins, R. Statistics Canada. 1997. Unpublished data. In *For the Safety of Canadian Children and Youth: From Injury Data To Preventive Measures*. CHIRPP.

7 - 30

Income* Distribution and Behaviour of Children Aged 4-11 Years
Canada, 1994-1995



□	20	15	13	13	14	14	12
●	16	11	8	9	8	6	6

□ Hyperactivity
● Delinquent behaviours

* Average household income.
Note: Two-parent families with children aged 4-11 years.

Source: Canadian Council on Social Development. 1999. *Income and Child Well-being: A New Perspective on the Poverty Debate.*

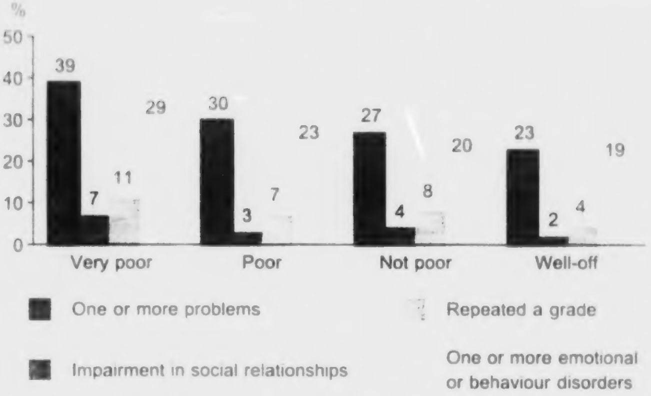
Behavioural Outcomes

Children with symptoms of hyperactivity and children with delinquent behaviours are found in all income groups. However, these behavioural outcomes vary according to income, with the poorest group (those with a household income of less than $20,000) clearly at the most substantial risk. Differences in behavioural outcomes were less significant among children in families with income over $30,000, a point close to the low income cut-off for a two-parent, two-child family. Hyperactivity and delinquency are associated with reduced school performance, increased illiteracy, decreased attendance at school and increased difficulty getting along with others (OPHA, 1998).

Offord and Lipman (1996) define "very poor" as an adjusted family income below 75% of the LICO, "poor" as an adjusted family income between 75% and 100% of the LICO, "not poor" as an adjusted family income up to 25% above the LICO and "well-off" as an adjusted family income more than 25% above the LICO. When one looks at the "very poor" children and the "well-off" children, clear differences in psychosocial well-being are evident. Smaller differences are evident between the "poor" and the "not poor". Although very poor children are clearly at elevated risk for psychosocial problems, the majority of children with psychosocial problems are not from very poor families. This is because very poor families make up a relatively small percentage of the overall population.

7

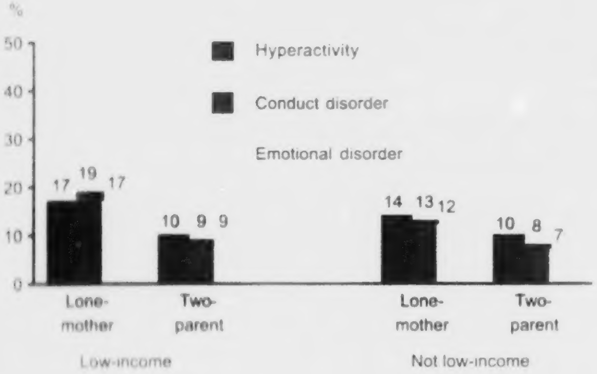
Frequency of Psychosocial Problems in Children, by Adjusted Household Income
Canada, 1994-1995



Source: Offord, D.R. and Lipman, E.L. 1996. Emotional and Behavioural Problems. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada*. NLSCY.

7-32

Rates of Problems for Children* From Lone-mother Families and Two-parent Families, by Income
Canada, 1994-1995



* 4-11 year olds
Note: Income categories: Low income = income less than or equal to LICO, Not low income = income greater than LICO
Source: Lipman, E.L. et al. 1996. What Do We Know About Children From Single-mother Families? Questions and Answers From the NLSCY. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada*. NLSCY.

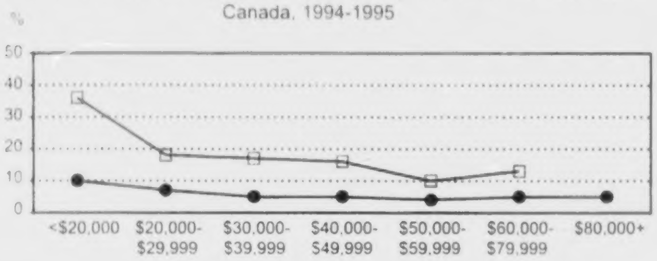
According to the NLSCY, children aged 4-11 years in lone-mother families with low incomes had the highest rates of hyperactivity, conduct disorder and emotional disorder. These rates were somewhat lower for children aged 4-11 years in lone-mother families that were not low income. Children aged 4-11 years in two-parent families had the lowest rates of these problems, regardless of income. Although the children of lone-mother families are at elevated risk of these disorders, the majority of children with these disorders will not be from lone-mother families. This is because the majority of children live in a two-parent family. Universal and targeted programs are needed to effectively reduce the proportion of children experiencing problems in a population.

Although there is upward educational mobility in Canada, it is important to recognize that the poorest children are particularly at risk for low academic attainment. Although parents of all incomes can, to some extent, support their children in achieving academic success, parents who completed high school or more tend to have more effective strategies for supporting their children's education (Lipman et al, 1996).

7

Children Receiving Special Education, or Experiencing a Delay in Vocabulary Development, by Income* Distribution

Canada, 1994-1995



Percentage

	<$20,000	$20,000-$29,999	$30,000-$39,999	$40,000-$49,999	$50,000-$59,999	$60,000-$79,999	$80,000+
□	36	18	17	16	10	13	--
●	10^{m}	7^{m}	5	5	4^{m}	5	5

—□— Delayed vocabulary development children age 4-5 years (%)

—●— Receiving special education children age 4-11 years (%)

Note: Calculations are based on two-parent families with children aged 4-11 years.
m= High sampling variability (interpret with caution).
*= Average household income.
- - = Does not meet Statistics Canada quality standards.
Source: Canadian Council on Social Development. 1999. *Income and Child Well-being: A New Perspective on the Poverty Debate.*

7 - 34

Universal and Targeted Programs for Children

- Advantages of universal programs are that children are not labeled or stigmatized, that a broad population of children can potentially benefit, and that the programs can focus on community features and issues. Universal programs can also identify areas where targeted programs are needed.
- Disadvantages of universal programs include limited benefits to individual children, particularly children most at risk whose families may be least likely to take advantage of these programs, limited overall effects, and cost.
- Advantages of targeted programs are that they are potentially efficient and effective at dealing with specific behavioural or social problems.
- Disadvantages of targeted programs are that they may lead to the labeling and stigmatization of participating children and they tend to target small, high risk populations but not large, low risk populations. (More children with problems will come from the large low risk population of children simply because of its size.)

Source: Offord, D. 1998. *Prevention of Anti-social Personality Disorder.*

A combination of universal and targeted programs is required to maximize the benefits to a population.

Child Poverty in Canada: The Time to Act is Now

by David P. Ross

November 1999 marked the 10th anniversary of the unanimous all-party resolution in the House of Commons to end child poverty by the year 2000. Sadly, we did not make it. Not only did Canada not make the deadline, but child poverty has worsened since 1989, growing from 14% to 20%, adding 463,000 more poor children to the poverty rolls.

Research is continually showing that poverty has serious negative consequences for child development. Poor families are more likely than others to experience stress in the home; they are less likely than others to live in safe neighbourhoods and they are less likely to enjoy access to the cultural and recreational activities that most Canadians take for granted. There is a clear and disturbing pattern. From their health and academic achievement to their behaviour and the types of friends they find, children living in families whose income is $30,000 or less display consistently poorer outcomes in every facet of their development.

For example: nearly 35% of children in low-income families live in sub-standard housing, compared to 15% of children in high-income families. More than one-quarter of low-income children live in problem neighbourhoods, compared to one-tenth of children in high-income families. Nearly 40% of very low-income children demonstrate high levels of indirect aggression (such as starting fights with peers or family members), compared to 29% of children in families with incomes of $30,000 or more. And children in low-income families are over two and one-half times more likely than children in high-income families to have a problem with one or more basic abilities such as vision, hearing, speech and mobility. Four- and five-year-olds from poor families are twice as likely to exhibit delayed vocabulary development compared to children from middle-income families and are also twice as likely to be enrolled in remedial special education classes.

Left unchecked, more children in Canada are likely to suffer poorer outcomes, because income inequality between Canadian families is growing. In 1973, the poorest 20% of families with children earned only 5% of all market income (i.e. earnings from employment and private investments).

By 1996, that percentage had dropped to 2%. At the same time, the richest 20% of families with children saw their share of market income rise from 3% to 43%. This disparity lessened somewhat after adjusting for government taxes and transfers such as welfare payments, unemployment insurance and child benefits. However, the poorest families still received a vastly smaller share of the total family income than did the ones with the highest incomes. But, since 1973, even this situation has worsened due to cutbacks.

Certain groups, most notably young and single parents, those with disabilities and those belonging to ethnic minorities, face even higher rates of poverty and even greater difficulties earning enough money to stay out of poverty.

Given the growing federal surplus, it is time for the government to make significant and long-term investments in income supports and services for children and youth. The Prime Minister's proposed improvements to parental leave and increased investment in the Child Tax Benefit are an important first step. But more social investment and tax reform aimed at low- and middle-income families are needed.

Governments need to demonstrate that their commitment to children is more than token. Child care is as pressing a need for Canadians as health care, and it is an essential cornerstone of early childhood development services. It is one of several services for children and youth in which both federal and provincial governments need to increase support. I am encouraged that the government has set a December 2000 deadline for announcing early childhood development initiatives. Now the federal government must show that it is serious about negotiating with the provinces by bringing a cheque book to the table.

David P. Ross is the Executive Director of the Canadian Council on Social Development (retired), an Ottawa-based independent research organization focusing on issues of economic and social security.

Chapter 8

The Mental Health of Children & Youth

> *“Being there for others can make a big difference. Letting people know they are not alone can also make a big difference and I think that understanding can also make a big difference in the world’s community health.”*
>
> **Melanie, aged 15 years, Newfoundland.**

> *“There is a lot of stress involved in being a teen. So we have to make many choices. Some are not so good, but we can change, and one day we all will grow up.”*
>
> **Eddie, aged 16 years, Newfoundland.**

This chapter primarily draws on the National Longitudinal Survey of Children and Youth (NLSCY), the National Population Health Survey (NPHS), the Health Behaviours of School-Age Children Survey (HBSC) and the Adolescent Health Survey of British Columbia (AHS). These surveys provide useful but limited data on the mental health and well-being of children and youth. Detailed and standardized information about the use of mental health services, such as those delivered through the school system, would greatly expand our understanding of the mental health and well-being of children and youth. Standardized information from other sources, such as the provincial and territorial child welfare systems, is also urgently needed if we are to adequately serve the needs of many of the most vulnerable children in Canada.

Why is mental illness termed the “new morbidity” for children?

Most children aged 10 to 11 years indicate prosocial behaviour, parental acceptance and positive peer relationships. However, according to parental reports, the rates of behavioural and emotional problems for children aged 4 to 11 years are disturbingly high. Approximately one in ten children exhibited behaviour consistent with a hyperactivity disorder, conduct disorder or an emotional disorder. Higher rates of these disorders were reported for boys than for girls. Approximately, one in four boys were identified with one or more problems whereas less than one in five girls were. Information about the same children from multiple sources (for example, parents and teachers) would increase the reliability of the information. The recent increase in the sample of teachers in the NLSCY will improve the reliability of the mental health data in the survey.

In the case of older children, the prevalence of depressive disorder is disturbingly high, particularly among female youth aged 15 to 19 years. Depressed youth are at elevated risk of suicidal thoughts and attempts compared to youth who are not depressed. A significant number of youth in Canada commit suicide every year. Suicide death rates for male youth are particularly high. Aboriginal youth and youth who live primarily on the street are at profound risk of suicidal thoughts and behaviours. Treating emotional and behavioural problems and promoting mental health among children and youth are essential activities, requiring the efforts of families, communities and all levels of government.

What about parenting and relationships within the family?

Parenting is one key contributor to the mental and emotional health and well-being of children and youth. A recent study found that ineffective or aversive parenting styles were strongly associated with conduct disorder. Parenting styles, however, are influenced by social and economic factors. For example, the stress of living in difficult circumstances (such as poverty or abuse) can negatively affect parenting styles and opportunities. Many lone-parents face considerable stress while raising their children and it is important to recognize and respond to the special circumstances of lone-parents. Another measure of family relationships is connectedness. High levels of family connectedness (where the young person feels cared for and understood) are associated with positive mental health. Research indicates that family connectedness decreases with age. Although one in four children aged 12 years indicated high levels of family connectedness, only one in ten children aged 15 years did. Students with lower levels of family connectedness were more likely to engage in high risk behaviours, such as early sexual activity, smoking and alcohol consumption. Given the importance of parenting and family life to the mental health and well-being of children and youth, appropriate social supports, services and resources must be widely available.

Is mental health distributed evenly among children and youth?

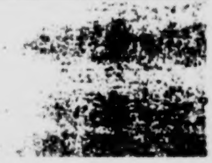
Both living in a lone-parent family and living in a low income household are independent risks for childhood emotional and behavioural problems. Having a chronic illness or disability is also associated with lower levels of mental health and well-being. According to a British Columbia survey, young people with a chronic illness reported lower levels of family and school connectedness. As connectedness is associated with mental health and well-being, low levels of connectedness are a cause for concern. Children in the care of the child welfare system cope with many challenges to their mental health and well-being, such as unstable living arrangements and unpredictable human relationships. One study in Alberta, based on an extensive file review, estimated that 25% of children in the child welfare system had at least one mental disorder. Participation in sports and recreation activities promotes inclusion and is associated with enhanced physical and psychological well-being. Economically disadvantaged children have reduced participation rates, particularly in activities that involve coaching or supervision.

Is gender an important determinant of mental health and well-being?

Gender is an important determinant of mental health. Boys, aged 4-11 years, displayed more direct aggression than girls of a similar age, particularly boys in lone-parent families and/or low income families. Boys, aged 4 to 11 years, were more likely than girls to engage in bullying behaviours (defined as physical, verbal or psychological intimidation causing distress or bodily harm). Male adolescents were more likely to report bullying than their female peers. Bullying behaviour decreased with age, with grade 10 students reporting less bullying than those in grades 6 and 8. Bullying can have lasting consequences for both the bullies and the victims, such as increased criminality, school drop-out and emotional disorders. Girls were more likely than boys to exhibit non-clinical symptoms of distress. Female youth were more likely than male youth to experience depression and to feel dissatisfied with their bodies (on a diet or thought they should be) or their lives (wished they were someone else).

Do children and youth believe in themselves?

Self-esteem is a strong marker of the mental health and well-being of children and youth and an important characteristic of resiliency. According to the NPHS, the majority of youth reported moderate to high self-esteem. A sense of mastery, or competency and capability, also contributes to mental health and well-being. People who believe that they are in control of their lives are more likely to feel good about themselves. According to the NPHS, male youth reported slightly higher levels of self-mastery than female youth. Reported self-mastery increased with age.



"People need to feel more secure about themselves. If there were more positive things for youth to be doing, or if interest in school could be maintained, this would help. A lot of people put down others to feel more secure with themselves. If self-security was more prominent, people might not discriminate against one another."

Melissa, aged 16 years, Ontario.

Mental Health Determinants

The Child

Characteristics of the child are important determinants of that child's mental health and well-being. Some of these characteristics cannot be changed. However, the influence of the child's environment is also important, and modifying it to meet the child's specific needs may be possible. Spirituality, expressed as connections to the arts, music, culture and the community, has emerged as a potentially important health determinant. A framework for finding meaningful connections through a variety of modes with parents, schools and the broader community will create a sense of coherence, a sense that the world is comprehensible, manageable and meaningful.

8 - 2

Characteristics of the Child that Affect Mental Health and Well-being

- Perinatal circumstances (such as gestational age and birth weight)
- Gender
- Genetics
- Temperament
- Nutritional status
- With or without a chronic illness
- Bullied or not bullied
- Spirituality

Source: CICH consultations with the CICH Profile Mental Health Expert Committee

8 - 3

Gender Differences in Children Aged 4-11 Years, by Behaviour Domain and Gender
Canada, 1998

Behaviour	Male	Female
Child never destroys his/her own things	**74%**	**86%**
Child never destroys things belonging to others	84%	91%
Child never physically attacks people	**79%**	**88%**
Child often shows sympathy	40%	54%
Child will often help someone who has been hurt	**57%**	**68%**
Child often offers to help other children	39%	51%

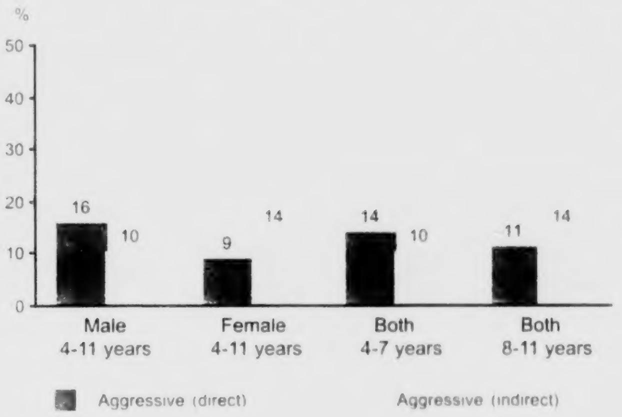
Source: Caputo, V. and Kelly, K. 1998. *Gender and Health: Growing Up Male and Female in Canada*. Workshop Paper for "Investing in Children: A National Research Conference, 1998."

According to the findings of the National Longitudinal Survey of Children and Youth (NLSCY), the majority of children, both girls and boys, growing up in Canada exhibit healthy behaviours. In examining only data on children who "never" exhibit negative, anti-social behaviours or "often" exhibit positive, prosocial behaviours, some gender differences emerge. According to parental reports, girls aged 4-11 years are more likely to act in a consistently helpful and sympathetic manner whereas boys of the same age are at slightly elevated risk for engaging in negative behaviours.

According to the 1994-95 NLSCY, as children age, direct aggression (such as hitting) becomes less frequent while indirect aggression (such as social exclusion) becomes more frequent. The NLSCY also indicated a gender difference, with boys more likely to employ direct aggression and girls more likely to employ indirect aggression. Lipman et al (1996) also found that living with a lone mother and being in a low income family are independent risks for both direct and indirect aggression.

8

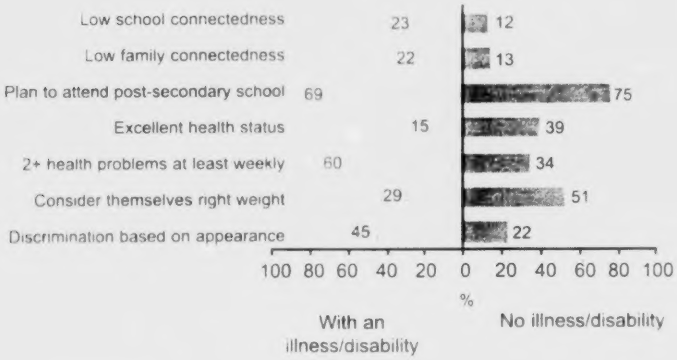
Direct and Indirect Aggression, by Age Group and Gender
Canada, 1994-1995



Source: Stephens T. 1998. *Population Mental Health in Canada.*

8 - 4

Youth* With a Chronic Illness or Disability
British Columbia, 1998



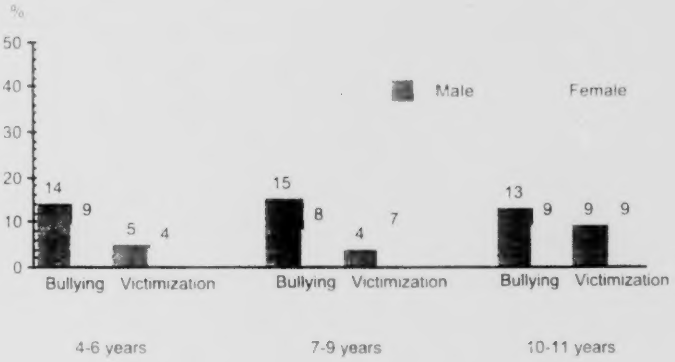
* In grades 7-12
Source: The McCreary Centre Society. 1999. *Healthy Connections: Listening to BC Youth Highlights From the Adolescent Health Survey II*

The 1998 B.C. Adolescent Health Survey (AHS) asked questions about connectedness. The term "connectedness" refers to how youth feel about their relationships with others. Youth who feel their relationships with others are close and caring, who feel that they belong, are considered to have high levels of connectedness. Connectedness is associated with better mental health and well-being. Youth with a chronic illness or disability were almost twice as likely to experience low levels of school connectedness and low levels of family connectedness as youth with no chronic illness or disability. The 1983 Ontario Child Health Survey found that children with a chronic functional limitation were 2.7 times as likely to have a psychiatric disorder than children without a chronic functional limitation. Children with a chronic medical condition were 2.4 times as likely.

The prevalence of bullying in Canada is a serious concern, prompting a zero tolerance approach in many child care centres and schools. According to Craig et al (1998), bullying and victimization were more common among boys than girls. They found that bullies and their victims had different profiles, with bullies tending to externalize, and victims tending to internalize problems. Further, children who bullied others often had other mental health problems (Craig et al, 1998). Bullying can have long-term negative consequences for both the bullies and the victims, such as increased criminality, school drop-out and emotional disorders (Craig et al, 1998).

8 - 5

Prevalence of Bullying and Being a Victim of Bullying*
Canada, 1994-1995

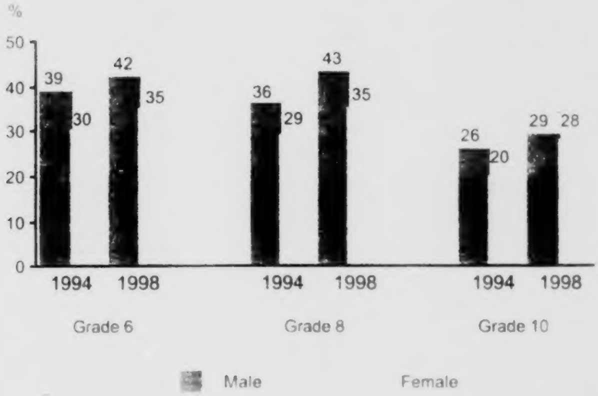


* By parent's report

Source: Craig, W. et al. 1998. *Bullying and Victimization Among Canadian School Children*. Workshop Paper for "Investing in Children: A National Research Conference, 1998."

8 - 6

Students in Grades 6, 8 and 10, Who Were Bullied in School This School Term
Canada, 1994 and 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth*.

Safety and security of person and freedom from discrimination, harassment and bullying are important to the health and well-being of young people. Bullying threatens safety and security. It includes physical, verbal or psychological intimidation that causes fear, distress or bodily harm (King et al, 1999). Public campaigns have increased awareness of bullying at schools and in the community. The slight increase in the proportion of students bullied may reflect greater willingness to report bullying behaviour. Males reported being bullied somewhat more often than girls did. Significantly fewer grade ten students reported being bullied than younger students, which may indicate a tendency to replace bullying behaviour with other strategies (King et al, 1999).

The Family

Characteristics of the family can be important determinants of a child's mental health and well-being. Social policies and programs can have a positive impact on many characteristics of the family, from parenting style to parental income and supports, increasing the family's capacity to nurture and encourage children.

8 -

Characteristics of the Family that Affect Mental Health and Well-Being

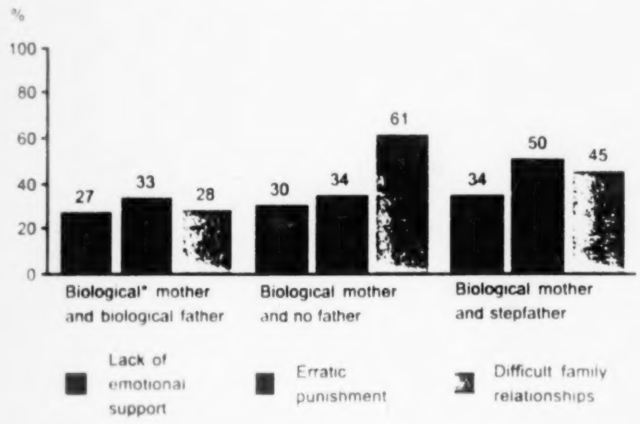
- Parenting style
- Parental education
- Parental income
- Family structure
- Number of siblings
- Ethnicity and culture
- Protection and safety
- Supervision
- "In care"

Source: CICH consultations with the CICH Profile Mental Health Expert Committee

8 - 8

Parenting Arrangements and Negative Perceptions of Family Life, by Children Aged 10-11 Years

Canada, 1994-1995



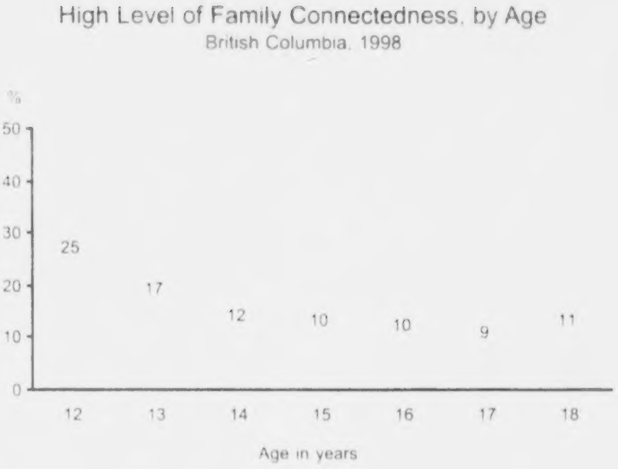
* "Biological" parents include adoptive parents

Source: Cheal, D. 1996. Stories about Step-families. In Human Resources Development Canada and Statistics Canada. *Growing Up in Canada*. NLSCY

Longitudinal studies, such as the NLSCY, provide an opportunity to examine the impact on children of different changes in family structure, behaviour and circumstances. According to the 1994-95 NLSCY, negative perceptions of family life increase when families undergo restructuring. Notably, children living with a biological mother and no father are more likely to indicate "difficult family relationships" than children living with both their biological parents, and reports of erratic (inconsistent or unpredictable) punishment increase with the introduction of a step-father into the household.

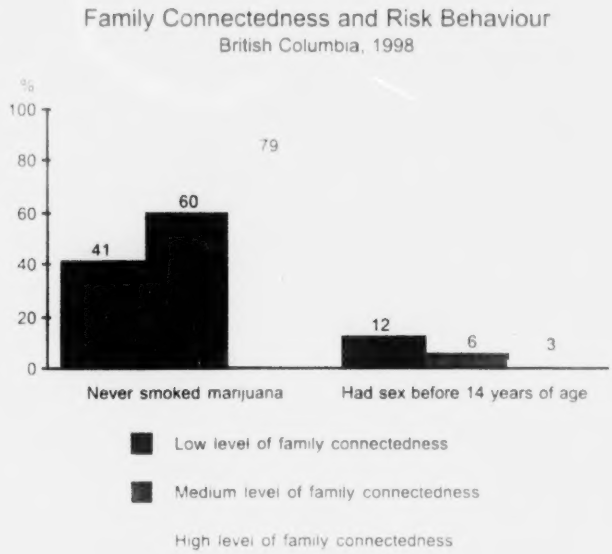
The 1998 B.C. Adolescent Health Survey (AHS) found that younger adolescents were more likely than older adolescents to be strongly connected with their family. According to the McCreary Centre Society (1999c), youth with stronger family connections reported better emotional health than youth with weaker family connections.

8 - 9



Source: The McCreary Centre Society. 1999. *Healthy Connections: Listening to BC Youth. Highlights From the Adolescent Health Survey II.*

8 - 10

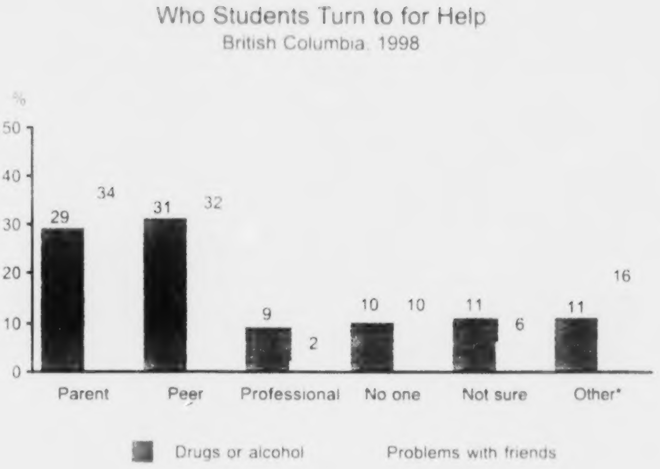


Source: The McCreary Centre Society. 1999. *Healthy Connections: Listening to BC Youth. Highlights From the Adolescent Health Survey II.*

According to the 1998 AHS, youth who were strongly connected with one or both parents (feel cared for and understood) were less likely to engage in risk behaviours such as early and unprotected sexual intercourse and the use of marijuana (McCreary Centre Society, 1999b). 41% of students in B.C. with low levels of family connectedness had never smoked marijuana compared with 79% of B.C. students with high levels of family connectedness. 12% of B.C. students with weaker family connectedness reported early sexual activity (before 14 years of age) compared with 3% of B.C. students with stronger family connectedness. Smoking and alcohol consumption were also reported less by youth with strong family connectedness.

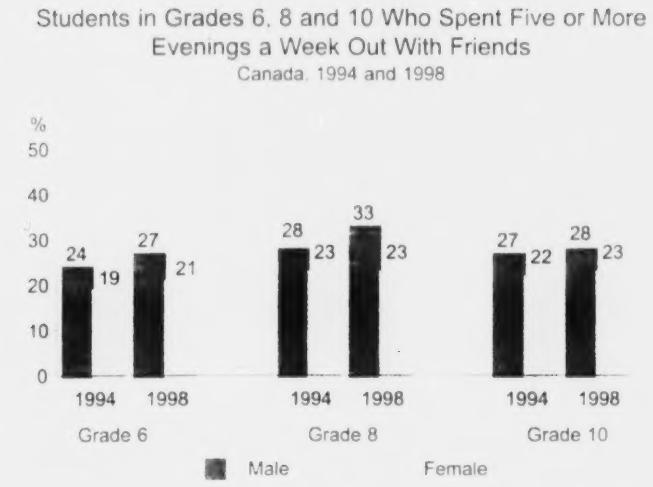
Who do youth turn to when they have problems? According to the 1998 B.C. Adolescent Health Survey, high school students turned primarily to parents and peers when they needed help. They were less likely to seek help from professionals.

8 - 1 1



* Other = other family member, adult friend or religious leader
Note: Respondents answered the question: "Who would you go to first if you had a problem with..."
Source: The McCreary Centre Society. 1999. *Healthy Connections: Listening to BC Youth. Highlights From the Adolescent Health Survey II.*

8 - 1 2



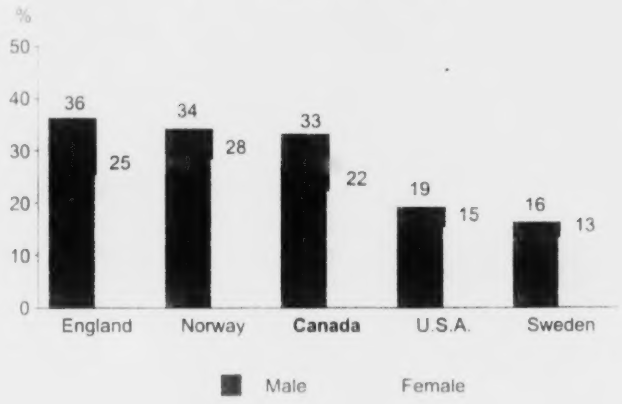
Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

Positive relationships with peers can enhance the well-being of young people. However, parental or caregiver supervision remains important throughout the teenage years. According to King et al (1999), young people who spend a great deal of unsupervised time with friends were also more likely to engage in risk behaviours, such as smoking, drinking alcohol and using illegal drugs. The survey found that boys were more likely than girls to spend four or five evenings a week out with friends. Some of this time may be accounted for by participation in organized teams and clubs but much of it is spent in unsupervised activity or "hanging out". King et al (1999) note that family income and academic orientation are factors influencing the amount of time spent in organized recreation.

In the five countries reported, males were consistently more likely to spend four or five evenings a week out with friends. Young people in Canada (33% of males and 22% of females) are considerably more likely than young people in the U.S. (19% of males and 15% of females) and Sweden (16% of males and 13% of females) to spend four or five evenings a week out with friends. Young people benefit from adult supervision as well as opportunities to participate in community activities and programs. Young people regularly without adult supervision are at increased risk for engaging in risk behaviours.

8 - 13

Children Aged 13 Years Who Spent Five or More Evenings a Week Out With Friends
Canada and International, 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

8 - 14

Child and Youth Victims of Assault by Family Members
Canada, 1997*

	Sexual assault Number		Physical assault Number	
	Male (N = 431)	Female (N = 1,620)	Male (N = 1,446)	Female (N = 1,779)
Parent	43%	45%	71%	60%
Sibling**	31%	30%	18%	20%
Extended family***	26%	24%	9%	8%
Spouse	-	1%	2%	13%

* Includes only cases where the gender of the victim is known.
** Sibling includes natural, step, half, foster or adopted.
*** Extended family includes others related by blood or marriage.
Source: Statistics Canada. 1999. *Family Violence in Canada: A Statistical Profile, 1999.*

In 1997, female children and youth were more often the victims of both sexual and physical assaults, although the gender difference was most notable in the case of sexual assault. Assault by a family member usually occurs within a pattern of abuse. Research indicates that abuse is widespread in Canada. Abuse by a family member, a serious betrayal of trust, is a devastating experience that has profound, long-lasting effects. It is associated with mental health problems such as lowered self-esteem, anxiety and depression. MacMillan (1997) noted that according to the 1990-91 Ontario Health Supplement, which asked adults about their past experiences, 31% of males and 21% of females were physically assaulted and 4% of males and 13% of females were sexually assaulted during childhood.

Abuse is a profoundly important determinant of mental health and well-being. Research reveals that the problems of child maltreatment and neglect are widespread in Canada. Further, the impact of child abuse is long-lasting and pervasive, negatively affecting many aspects of the child's life. Ultimately, the experience of abuse or neglect severely reduces the likelihood that a child will grow up happy, healthy and capable (Health Canada, 1998).

8

The Consequences of Child Abuse

Psychological: anxiety, anger, guilt and shame, psychosomatic complaints, fearfulness, depressive symptoms, psychiatric disorders, problems with cognition.

Physical: growth problems, injury, neurological damage, weight problems, sleep disturbances, headaches and stomach aches, poor overall health.

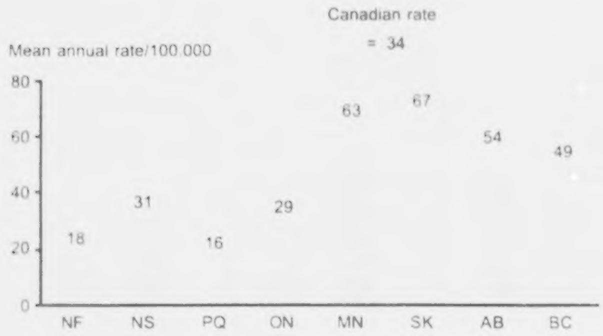
Behavioural: developmental delays, behaviourial problems, risk-taking (drugs, alcohol, unsafe sex), eating disorders, suicide and suicide attempts.

Academic: lowered achievement, grade repetitions.
(Health Canada also reports on sexual, interpersonal, self-perceptual and spiritual consequences.)

Source: Health Canada. 1998. *The Consequences of Child Maltreatment*

8 - 16

Rate of Hospitalization for Assault and for Abuse and Neglect*, Birth to 19 Years of Age
Provinces**, 1990-1992



* ICD 9th revision, codes E960 to E969.
** Data not available for PEI, New Brunswick, Yukon or Northwest Territories.
Note: Period from April 1, 1990 to March 31, 1992.
Source: Health Canada. 1997. *For the Safety of Canadian Children and Youth: From Injury Data to Preventive Measures.*

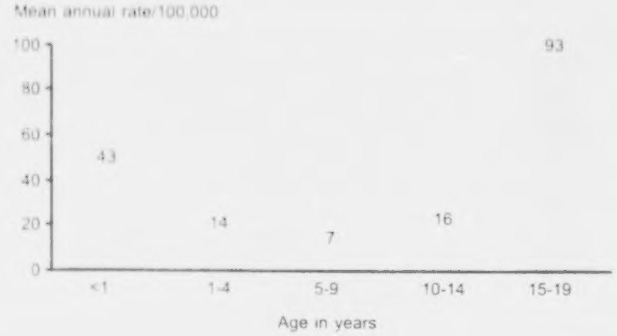
In extreme cases, abuse results in injuries that require hospitalization. The rate of hospitalization for assault, abuse and neglect is highest in Manitoba and Saskatchewan. Regional differences may be attributable, in part, to proportions of children living in rural or remote regions in those provinces. The distance between these communities and the hospitals can necessitate in-patient rather than out-patient treatment for similar injuries.

Infants and youth are more likely than children aged 1-14 years to be hospitalized for assault, abuse and/or neglect. Infants are particularly vulnerable to shaking and other forms of physical abuse. Shaking a baby may result in permanent damage or death.

8

Rate of Hospitalization for Assault and for Abuse and Neglect*, by Age Group

Canada**, 1990-1992



* ICD 9th revision, codes E960 to E969.

** Data not available for PEI, New Brunswick, Yukon or Northwest Territories.

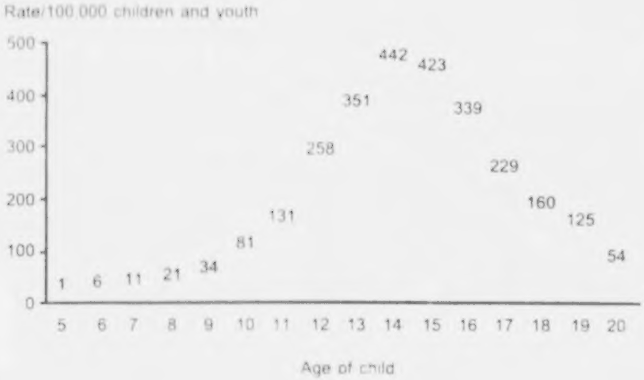
Note: Period from April 1, 1990 to March 31, 1992.

Source: Health Canada. 1997. *For the Safety of Canadian Children and Youth: From Injury Data to Preventive Measures.*

8 - 18

Rate of Calls About Abuse or Violence to the Kid's Help Phone

Canada, 1998*



*Rates based on July 1, 1998 population estimates.

Source: Statistics Canada. 1999. *Family Violence in Canada: A Statistical Profile, 1999.*

The rate of calls to the Kid's Help Phone about abuse and violence is highest for youth 14 and 15 years of age. However, even very young children and young adults call the Kid's Help Phone. The extent to which this service is used is cause for concern. The number of calls to the Kid's Help Phone is limited by factors such as the number of telephone lines available to take calls.

According to Martin et al (1997), children usually come into the care of the child welfare system because of serious, on-going difficulties in their family lives that undermine their healthy development. Consequently, many children and youth in care have emotional, behavioural and learning problems. A wide array of services needs to be made available to these children to support their healthy development and, eventually, their successful transition into adulthood.

8

Children Receiving Services from the Child Welfare System

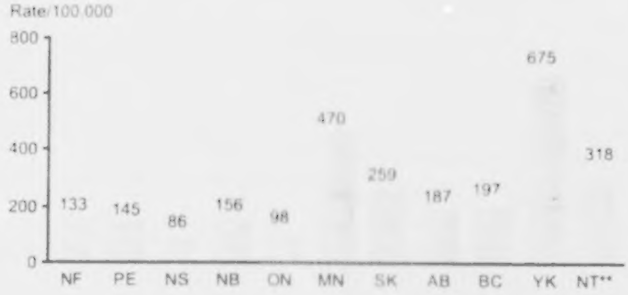
- Children receiving services from the child welfare system may live at home with their families, with relatives, in foster homes, in a group home or in some other arrangement.
- They have personal histories that often include economic hardship, changes in family structure and experiences of neglect or abuse.
- Their living arrangements and personal relationships are often unstable.
- Like all children, they need support for their growth and development to become resilient, self-reliant, autonomous adults. In fact, their need is greater and less likely to be fulfilled.

Source: Martin, F. and Palmer, T. 1997. *Transitions to Adulthood: A Youth Perspective.*

8

Children and Youth Up to Age 16 In Care

Provinces* and Territories, 1996



* Quebec is not included.

** Refers to children up to age 18.

Note: Interprovincial comparisons must be interpreted with caution because of the different ways provinces define children in care and the different methods of data collection.

Source: CICH using the Federal-Provincial Working Group on Child and Family Services Information, Child and Family Services Annual Report, 1994-95 to 1996-97.

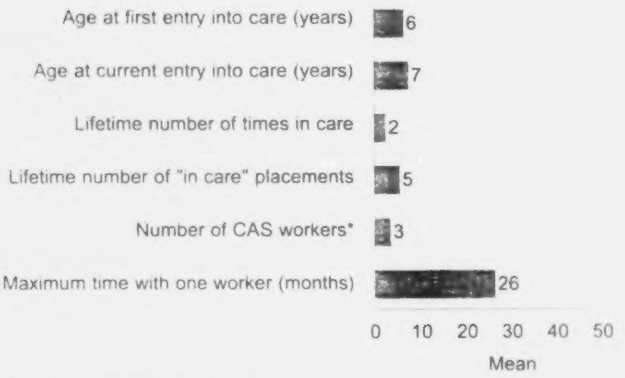
Children in the care of the government require special attention. They tend to have had more difficult personal experiences than other children. They must negotiate different sets of relationships. They must deal with greater instability and more frequent change. These factors all affect their physical, psychological and emotional health. This chart is a compilation of available data from the provinces and territories. Standardizing the collecting and reporting methods across jurisdictions would increase its utility as a measure of child well-being.

Children who are in the care of the government have often led unstable and complex lives as illustrated by a study of children in care in London, Ontario. The average lifetime number of times in care was 1.9 and the lifetime number of "in care" placements was 4.9. Further, the children have often dealt with a number of case workers.

8 - 21

In Care Demographics

London and Middlesex, Ontario, 1992-1993



Note: CAS = Children's Aid Society

Source: Stein, E. et al. 1994. Psychiatric Disorders of Children 'In Care': Methodology and Demographic Correlates. *Canadian Journal of Psychiatry*. Vol. 39. No 6.

The Community and Society

Many characteristics of the community and the society affect the mental health and well-being of children and youth. These characteristics are, arguably, the most amenable to change. It is possible to create a civil society for children and youth, given a clear vision and strong social policies.

8 - 22

Characteristics of the Community and Society That Affect Mental Health and Well-Being

Community
- opportunities for young people
- attitudes towards young people
- school structures and processes
- civic participation
- safety

Society
- (in)equity
- opportunity
- social justice
- gender constructs
- legislation
- universalism versus marginalization

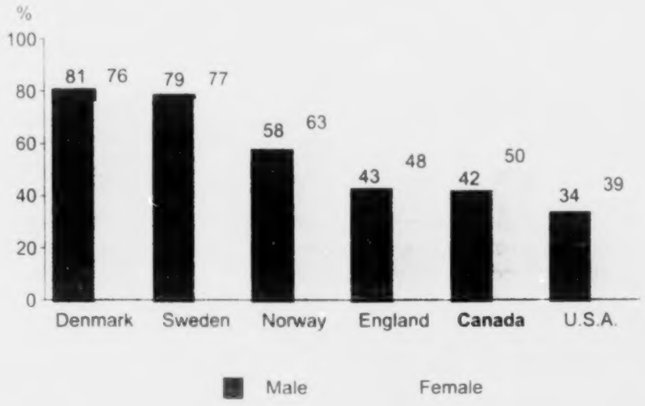
Source: CICH consultations with the CICH Profile Mental Health Expert Committee.

Students aged 13 years in Denmark, Sweden and Norway were more likely than students of the same age in England, Canada and the U.S. to indicate that students in their classes were often/always kind or helpful. Positive peer relationships and a supportive school environment may bolster mental health and well-being, protecting against emotional and school problems.

8 - 23

Children Aged 13 Years Who Felt Other Students in Their Classes Were "Often" or "Always" Kind and Helpful

Canada and International, 1998

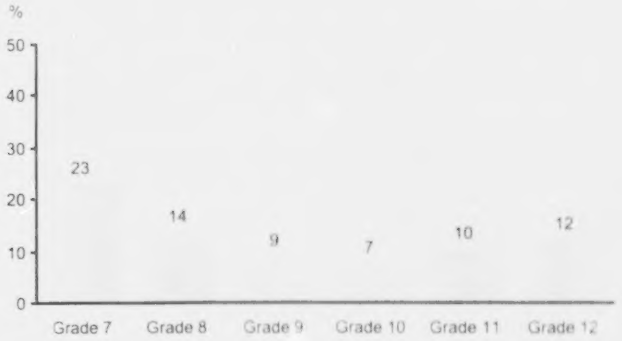


Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

8 - 24

High Level of School Connectedness

British Columbia, 1998



Source: The McCreary Centre Society. 1999. *Healthy Connections: Listening to BC Youth. Highlights From the Adolescent Health Survey II.*

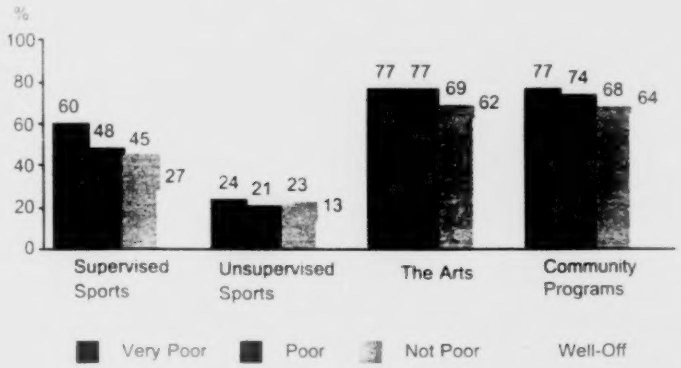
A high level of school connectedness is characterized by a strong sense of belonging and involvement. According to the McCreary Centre Society (1999b), students with strong connections with school are more likely to be better students and to plan to complete post-secondary education. Students in grade 7 were the most likely to report high levels of school connectedness. The percentage of students reporting strong connections with school fell between grade 7 and grade 10 and then began to climb again in grades 11 and 12. King et al (1999) propose that students entering high school need time to adjust to the new high school environments. Educators need to improve programs to prepare children for this adjustment.

According to Offord et al (1998), participation in sports, recreation and other leisure activities is important because it promotes inclusion and is associated with enhanced quality of life through both the acquisition of new skills and improved physical and psychological health. Using the NLSCY data, they found that certain groups, such as economically disadvantaged children, had reduced participation rates, particularly when coached or supervised activities were examined. They also found that few children overall participated in community and arts programs. The presence of good playgrounds, parks and other play spaces was associated with increased participation in supervised and unsupervised sports, and the arts.

8 - 25

Rates of "Almost Never" Participated in the Last 12 Months, by Income Level

Canada, 1994-95



Source: Offord, D. et al. 1998. *Which Children Don't Participate in Sports, the Arts and Community Programs?* Workshop Paper for: "Investing in Children: A National Research Conference, 1998."

8 - 26

Resilience

- Resilient children are optimistic children with a sense of meaning and purpose, confidence and self-esteem, who overcome challenges and know how to get the social support they need. Children from disadvantaged populations who are resilient manage to succeed and even do well.
- At the root of resilience is a healthy child with a history of secure attachment to a primary caregiver. Thus, supporting young families is essential to promoting resilience. However, families and schools can help children build resilience throughout childhood.
- Features of families and schools that promote resilience include: caring and supportive adults, high but achievable expectations, and opportunities for children to participate and contribute in meaningful ways. A strong, healthy relationship with a caring adult and competency in at least one area are important factors of resilience.

Source: Steinhauer, P. 1998. *Developing Resiliency in Children from Disadvantaged Populations*

Mental Health Outcomes

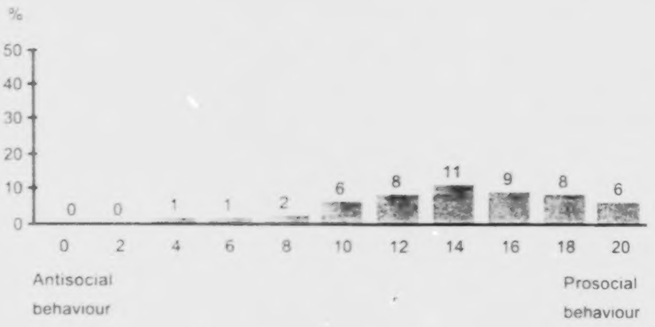
All children benefit from being resilient and it is particularly important to children from disadvantaged populations. Resilient children, living in difficult circumstances, have better emotional, behavioural and learning outcomes than non-resilient children in comparable circumstances. Building resilience in disadvantaged populations is, thus, a key process. However, for maximal benefits, it must be paired with efforts to improve the living conditions of disadvantaged populations.

According to the 1994-95 NLSCY, prosocial behaviour, characterized by caring and sympathetic social interactions, is much more common among children age 10-11 years than antisocial behaviour, characterized by negative social interactions. Prosocial behaviour strengthens relationships with others (such as family members, peers and teachers) and contributes to a child's positive self-esteem and resiliency.

8 - 7

Distribution of Children Aged 10-11 Years, by Child's Report of Prosocial Behaviour

Canada, 1994-1995

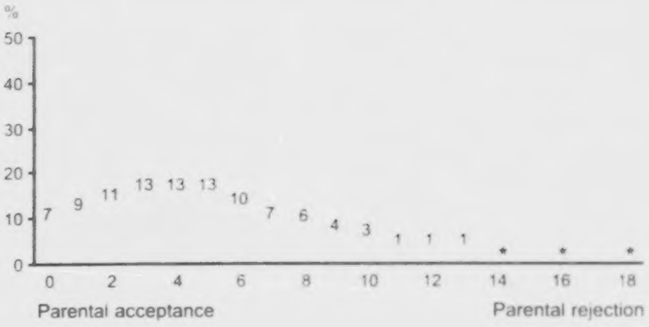


Source: Ross, D.P. et al. 1996. Overview: Children in Canada in the 1990s. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada. NLSCY.*

8 - 8

Distribution of Children Aged 10-11 Years, by Child's Report of Parental Acceptance

Canada, 1994-1995



* Less than one

Note: Score comprised of 10-11 questions. Range of questions, 1 "Never" to 4 "Very often".

Source: Ross, D.P. et al. 1996. Overview: Children in Canada in the 1990s. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada. NLSCY.*

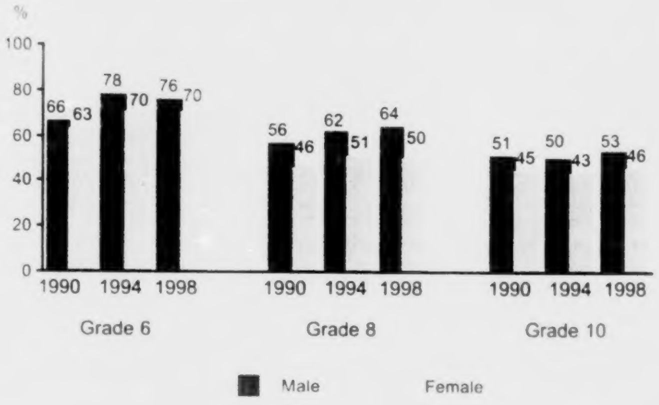
The findings from the NLSCY present a positive picture of child-parent relations. Overwhelmingly, children aged 10-11 years reported that they were accepted by their parents. A healthy bond with a caring adult, particularly a parent, is an important building block of resiliency and, as such, can have a lasting positive impact on children's health and well-being over the long-term.

According to King et al (1999), students in grade 6 were more likely to report that their parents understood them than students in grade 8 or 10. Further, male students in all three grades were slightly more likely than their female peers to feel that their parents understood them. Feeling understood contributes to a sense of connectedness with parents and can contribute to a young person's overall sense of well-being (McCreary Centre Society, 1999b).

8 - 29

Students in Grades 6, 8 and 10, Who Felt Their Parents Understood Them

Canada, 1990, 1994 and 1998

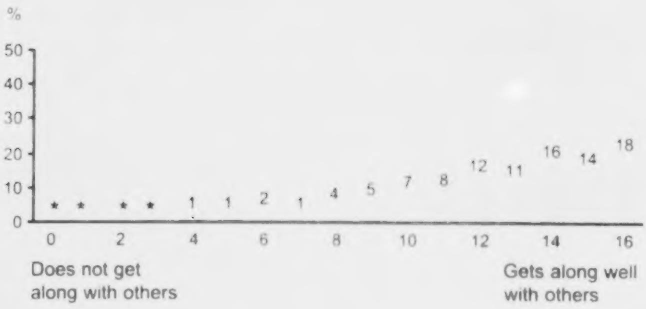


Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

8 - 30

Distribution of Children Aged 10-11 Years, by Child's Report of Peer Relationships

Canada, 1994-1995



*Less than one.

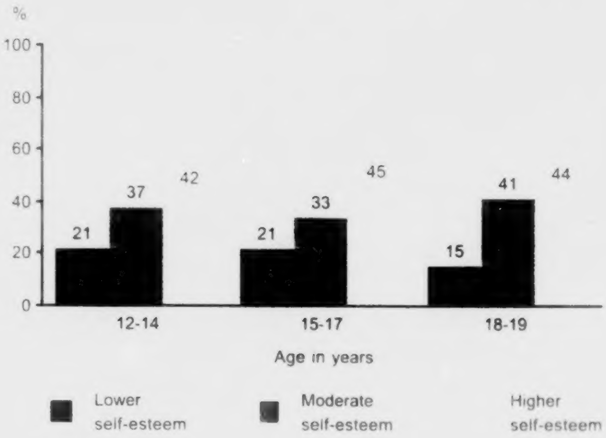
Source: Ross, D.P. et al. 1996. Overview: Children in Canada in the 1990s. In Human Resources Development Canada and Statistics Canada: *Growing Up in Canada. NLSCY.*

Children aged 10-11 years tended to report positive relationships with their peers. In many cases, peers are a source of acceptance and support, contributing to the development of a child's self-esteem and increased independence. In other cases, peers can be a negative force, encouraging risk behaviours such as smoking, drinking alcohol, using drugs and participating in criminal activity. Strong ties with peers are often not effective alternatives to strong ties with caring adults.

Stephens (1998) defines self-esteem as a fundamental element of mental health, an indicator of mental health rather than a determinant. Self-esteem is an essential component of resiliency in the face of personal or social difficulties. The majority of youth, 12 to 19 years of age, report moderate to high levels of self-esteem. Older youth are somewhat more likely than younger youth to report higher self-esteem. According to Stephens' study (1998) and contrary to popular perception, there was no significant difference between the self-reported self-esteem of males and females.

8 - 31

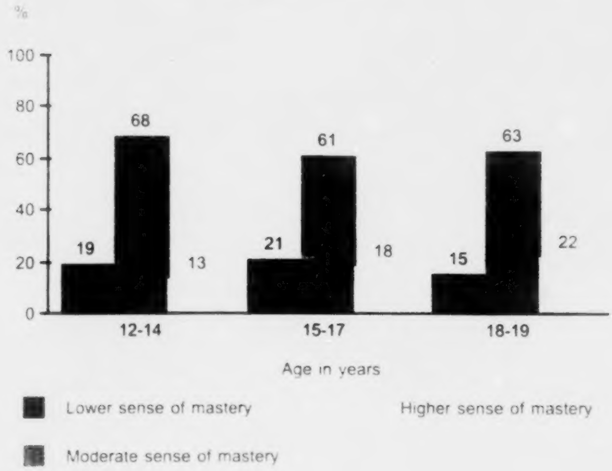
Self-esteem, Children Aged 12-19 Years, by Age
Canada, 1994-1995



Source: Stephens, T. et al. 1999. Mental Health of the Canadian Population: A Comprehensive Analysis. *Chronic Diseases in Canada*. Vol. 20 No. 3.

8 - 32

Sense of Mastery, Children Aged 12-19 Years, by Age
Canada, 1994-1995



Source: Stephens, T. et al. 1999. Mental Health of the Canadian Population: A Comprehensive Analysis. *Chronic Diseases in Canada*. Vol. 20 No. 3.

According to Stephens (1998:11), "the mastery scale in the 1994-95 NPHS measures the extent to which individuals believe their life chances are under their control". A sense of mastery, thus, indicates a person's sense of competency and capability. People who believe that they are in control of their lives may be more likely to take steps to maintain and optimize their health than those who lack this sense of control or mastery. Males report slightly higher levels than females and, as would be expected developmentally, older youth report somewhat higher levels than younger youth. Supporting youth in the development of independence and autonomy is an important aspect of preparing them for life as an adult.

Clinical Mental Health Problems

When examining symptoms of emotional and behavioural disorders, the extent of functional or social impairment is an important consideration.

8 - 33

Functional or Social Impairment

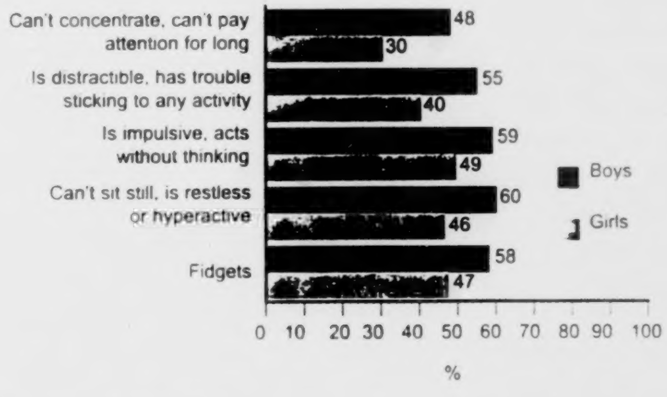
- Hyperactivity disorder, conduct disorder and emotional problems in childhood are diagnosed when behaviours result in social or functional impairment.
- Not all children who exhibit symptoms of a disorder have that disorder. For example, a significant proportion of children exhibit one or more symptoms of hyperactivity. However, most of these children are not impaired because of the symptoms.
- The risk of social and functional impairment is particularly high when there is co-morbidity (the occurrence of more than one problem at the same time).

Source: CICH consultations with the CICH Profile Mental Health Expert Committee.

8 - 34

Frequency of Selected Hyperactivity Symptoms, Parent's Report Children Aged 8-11 Years, by Gender

Canada, 1994-1995



Offord, D., Lipman, E. and Duku, E. (Forthcoming). *Epidemiology of Problem Behaviour.* To Appear in Study Group Report on Very Young Offenders. Rolf Loeber and David P. Farrington, eds. Sage Publications.

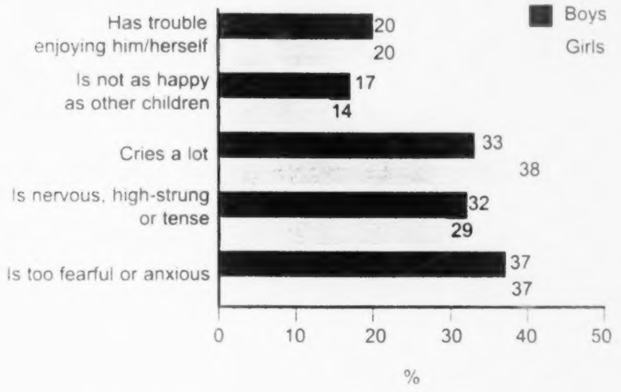
Hyperactivity symptoms include being unable to concentrate, restless, easy distraction and impulsiveness, acting without thinking, and fidgeting. Children who are reported by their parents as having one or more of the hyperactive symptoms do not necessarily have a clinically important problem with hyperactivity. According to the parents surveyed in the 1994-95 NLSCY, there was a high prevalence of hyperactivity symptoms among children aged 8-11 years. Male children aged 8-11 years were more likely to have such symptoms than their female peers. The greatest gender difference was indicated for "can't concentrate, can't pay attention for long".

8 - 35

According to the parents (mostly mothers) surveyed in the 1994-95 NLSCY, a sizable proportion of children aged 8-11 years have emotional symptoms, particularly nervousness, crying a lot and fearfulness and anxiety. Gender differences were small. Children who are reported by their parents as having one or more of these symptoms do not necessarily have a clinically important emotional problem. Concern arises when these behaviours result in or contribute to social or functional impairment.

Frequency of Selected Emotional Symptoms, Parent's Report, Children Aged 8-11 Years, by Gender

Canada, 1994-1995

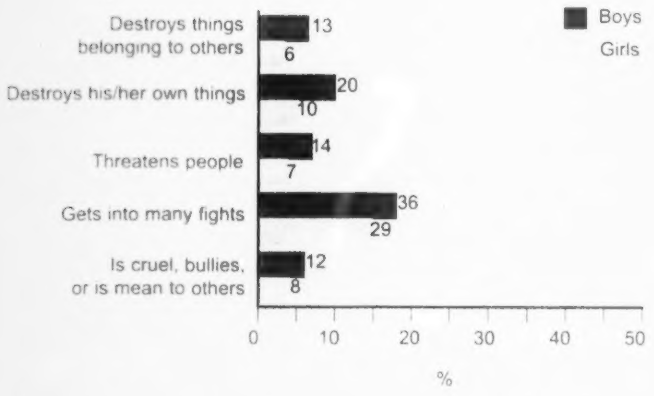


Offord, D., Lipman, E. and Duka, E. (Forthcoming), *Epidemiology of Problem Behaviour*. To Appear in Study Group Report on Very Young Offenders. Rolf Loeber and David P. Farrington, eds. Sage Publications.

8 - 36

Frequency of Selected Conduct Symptoms, Parent's Report, Children Aged 8-11 Years, by Gender

Canada, 1994-1995



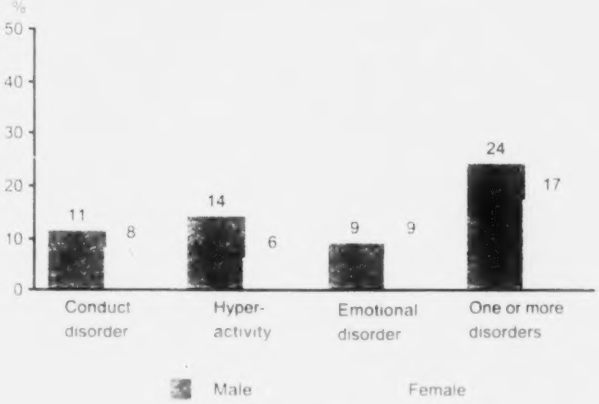
Offord, D., Lipman, E. and Duka, E. (Forthcoming), *Epidemiology of Problem Behaviour*. To Appear in Study Group Report on Very Young Offenders. Rolf Loeber and David P. Farrington, eds. Sage Publications.

According to the parents surveyed in the 1994-95 NLSCY, a substantial proportion of children aged 8-11 years have conduct symptoms. This chart reports on physical aggression and property offences. The highest rates were reported for "gets into many fights". According to their parents, with the exception of "gets into many fights", approximately twice as many boys as girls have conduct symptoms.

According to the parents' reports in the NLSCY, a significant proportion of children exhibited behaviour consistent with conduct disorder, hyperactivity and other emotional disorders. This was particularly true in the case of male children, but the female rates were also of concern. Of these children, many were identified with multiple problems. Offord et al (1996) note that almost 3% of children aged 4-11 years were socially impaired by their problems. They further conclude that clinical services alone cannot possibly reduce the burden of suffering from these problems, arguing for a comprehensive approach including universal programs, programs that target high-risk groups and clinical services.

8

Frequency of Problems, Children Aged 4-11 Years, by Gender
Canada, 1994-1995



Source: Offord, D.R. and Lipman, E.L. 1996. Emotional and Behavioural Problems. In Human Resources Development Canada and Statistics Canada. *Growing Up in Canada*. NLSCY.

8-58

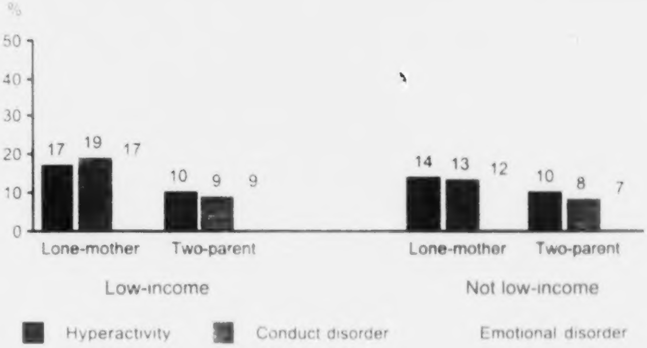
Symptoms of Mental Health Problem, Teacher's Reports

Although one person's perspective on a child's behaviour can be useful, multiple perspectives on the same child are very valuable. For example, a child identified as having symptoms both at school and at home is more likely to have a problem or disorder than a child who is identified by only one person as having symptoms. The 1994-95 NLSCY provided reliable data from the parents' perspective but not from the teachers' perspective. The 1983 Ontario Child Health Survey was the last major study of child health to provide reliable data from multiple sources (parents and teachers). When diagnoses were made on the basis of two sources, the rates for the different problems were drastically reduced.

Family structure, in association with income and maternal education, is a contributing determinant to children's mental health. Lone-parents, the vast majority of whom are mothers, experience the same stresses as other parents but at a much higher intensity. Restricted to one income, and often hampered by limited education, they are more vulnerable to poverty. That children in lone-mother families are more likely to have behavioural or social problems may reflect substantial differences in the resources available to lone-mothers to cope with and redirect "problem" behaviour. There is a need for more and better income supports, increased access to affordable, high quality child care, family-friendly workplace policies that extend to lower paying jobs and improved social services.

8 - 39

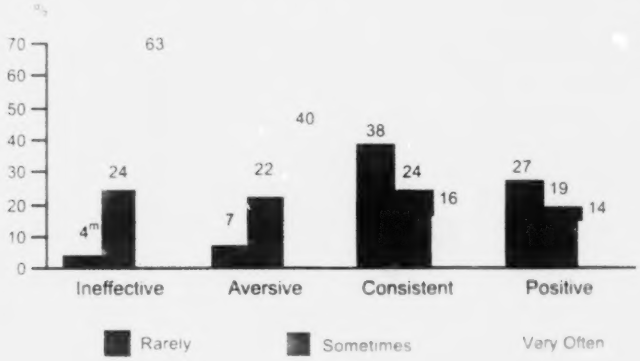
Rates of Problems for Children Aged 4-11 Years From Lone-mother Families and Two-parent Families, by Income
Canada, 1996



Note: Income categories: Low income = income <= LICO; Not low income = income >LICO
Source: Lipman, E.L. et al. 1996. What Do We Know About Children From Single-mother Families? Questions and Answers From the NLSCY. In Human Resources Development Canada and Statistics Canada. *Growing Up in Canada*. NLSCY.

8 - 40

Parenting Practices and Children with Conduct Disorders
NLSCY, 1994-1995



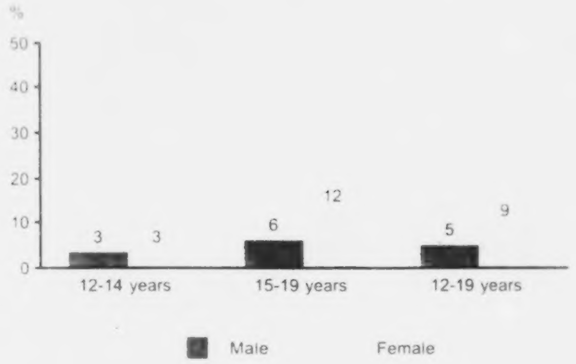
m = subject to high sampling variability.
Source: Stevenson, K. 1999. *Family Characteristics of Problem Kids*. In *Canadian Social Trends*.

According to the 1994-95 NLSCY, a strong association was found between ineffective parenting (parent often annoyed with child, tells child he/she is bad) and conduct disorder. The parents of 63% of children with conduct disorder employed an ineffective parenting style "very often". Aversive parenting (parent raises voice and uses physical punishment) was also associated with higher rates of conduct disorder. A causal relationship cannot be inferred. Parenting style is affected by child behaviour and child behaviour is affected by parenting style. These two sets of behaviours develop together and are also affected by other social, economic and personal factors. Additional research is needed to understand the connection between parenting style and child mental health.

Symptoms of depressive disorder include, but are not limited to, pervasive sadness, a sense of helplessness and/or hopelessness, and irritability (Stephens, 1998). The prevalence for major depression episodes among adolescents is disturbingly high, particularly for female youth aged 15 -19 years. Familial, social, genetic and biological factors contribute to the risk of depression. Studies indicate that depressed youth have a higher incidence of suicidal thoughts and attempts than depressed adults (Ehrenberg, Cox and Koopman, 1990; Frankish and McLean, 1992).

8 - [illegible]

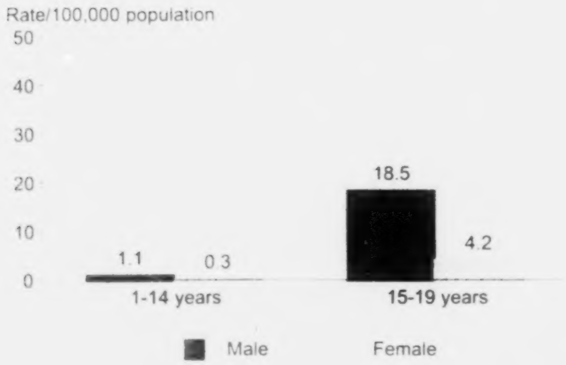
Prevalence for Major Depression Episode, by Age and Gender
Canada, 1994-1995



Source: Calmey, J. 1998. Gender Differences in the Prevalence of Depression Among Canadian Adolescents. *Canadian Journal of Public Health.* Vol. 89 No.3.

8-42

Suicides by Gender and Age Group
Canada, 1996



Source: Statistics Canada. 1999. *Canada Year Book 1999 on CD-ROM.*

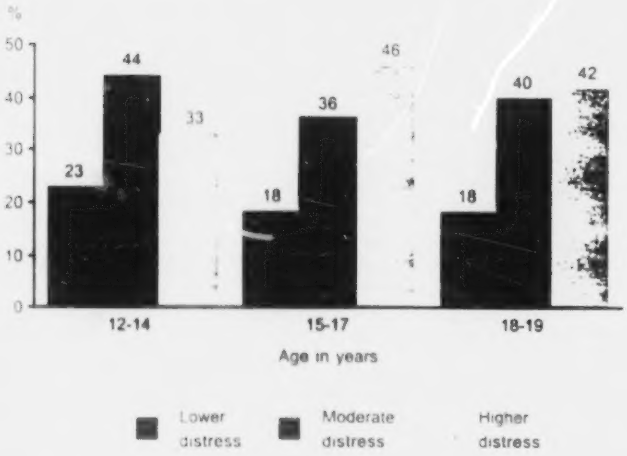
A significant number of children and youth in Canada commit suicide every year. Males account for more suicide deaths than females (research indicates that males' suicide attempts are more likely to end in death than attempts by females). Suicide is not an illness but an action taken as a result of a varying mix of social, psychological and neurobiological factors (Health Canada, 1994). Research has shown that Aboriginal youth and street youth are particularly vulnerable populations.

Challenges to Mental Health

Stephens (1998:15-16) defined distress as "a state characterized by symptoms of anxiety and depression". Older youth are somewhat more likely than younger youth to report "higher" amounts of distress. Overall, the relatively high amount of distress experienced by youth is a matter of concern, although it is unclear to what extent the reported distress impairs the social functioning of the youth. It is important to keep in mind that youth face a range of challenges, including coping with school and employment responsibilities and coming to terms with their sexuality. Their reported distress may be attributable, in part, to facing these challenges.

8-[illegible]

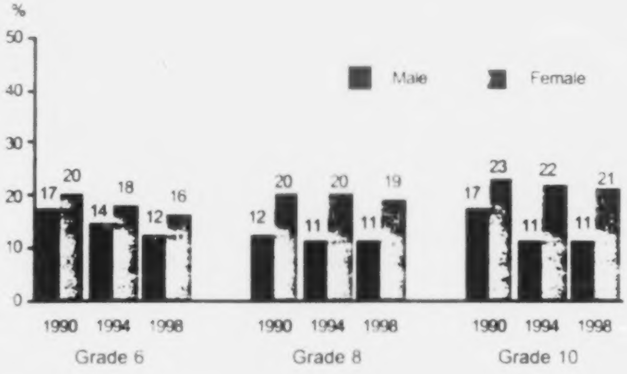
Amount of Distress, Children Aged 12-19 Years, by Age
Canada, 1994-1995



Source: Stephens, T. et al. 1999. Mental Health of the Canadian Population: A Comprehensive Analysis. *Chronic Diseases in Canada.* Vol. 20 No. 3.

8-44

Students in Grades 6, 8, and 10 Who "Very Often" or "Rather Often" Felt Lonely
Canada, 1990, 1994 and 1998



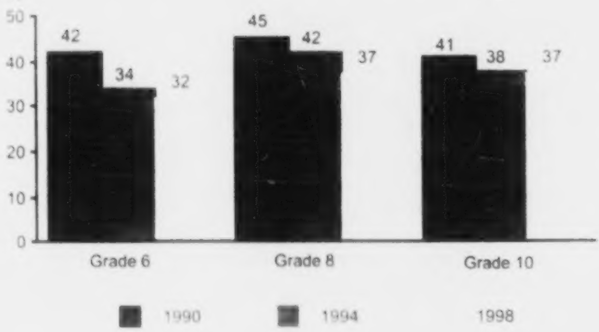
Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth.*

Girls are far more likely to report loneliness than boys. About one fifth of the girls at all grade levels reported that they often or rather often felt lonely. The data show a slight trend away from loneliness, more evident for male rather than female students. Adolescents want to be accepted by their peers. Self-reported loneliness is a measure of this acceptance and belonging. According to King et al (1999), concerns about body image, problems with parents, problems with bullies, a sense of helplessness, and lack of confidence can contribute to feelings of isolation and, by extension, loneliness.

According to King et al (1999) more girls than boys agreed with the statement, "I often wish I was someone else". A closer look at the results for girls reveals that the proportions changed little from grade to grade. However, on a more positive note, there has been a slight but steady decline since 1990 in the proportion of girls who report wishing they were someone else. King et al (1999) state that this may be attributable to a general improvement in girls' self-esteem. There are more and more public awareness campaigns that encourage young people, parents, teachers and other members of the community to support the healthy development of girls.

8-45

Female Students in Grades 6, 8 and 10
Who Often Wished They Were Someone Else
Canada, 1990, 1994 and 1998



Source: King, A.J.C. et al. 1999. *Trends in the Health of Canadian Youth*.

8-46

The Mental Health of School Age Children

There are insufficient national and provincial data available on the mental health and well-being of school age children. A wealth of health data (such as the use of psychologists and other specialists) is currently "hidden", located in difficult to access, often unstandardized systems, such as the school system. The development of health indicators and measures that report on these data is essential to developing a stronger, evidence-based picture of the mental health and well-being of school age children.

The Mental Health of Children and Youth

By Dr. D.R. Offord

The information presented in this chapter comes from a number of sources and is wide-ranging. The data have many implications for discovering strategies to improve the mental health of all Canadian children, and to reduce the high burden of suffering from emotional and behavioural problems in children and youth. It should be kept in mind that the leading group of conditions that lower life quality and reduce life chances of Canadian children and youth, 1 to 19 years of age, are emotional and behavioural problems and early learning difficulties. A number of implications of the data presented in this chapter are discussed briefly below.

First, the contributions of one domain alone cannot assure good mental health of children. Factors inside the child, in the family and in the community all contribute to the development of healthy children. A corollary is that remedial efforts to help children in difficulty emotionally and behaviourally must involve the child, the family and the community.

Second, age and gender variables are important in not only describing the strengths and weaknesses of children, but in understanding the factors that contribute to their adjustment. For example, direct aggression is more prevalent in boys than girls; the opposite is true for indirect aggression. The frequency of depressive symptoms is similar in preadolescent boys and girls, but rises markedly in adolescent girls compared to adolescent boys.

Third, there are high-risk groups of children for emotional and behavioural difficulties. They include, for instance, children in the welfare system, those who have been abused and those living in poor lone-parent families. While markers for identifying groups at increased risk are known, the mechanisms by which these markers confer high-risk status on children are, for the most part, poorly understood.

Fourth, data in the chapter indicates that children who are strongly connected to schools do better than those who are not. A challenge for schools and communities is to find strategies that reduce the number of children and youth who are marginalized in these settings and who do not participate fully in the available activities.

Fifth, the international comparisons show that, while Canada is not usually at the bottom, there is clearly room for improvement. For instance, only the United States has lower rates of children aged 13 who felt that the other students in their classes were "often" or "always" kind and helpful.

Sixth, the information presented in the chapter indicates that to understand children, data from more than one source or one informant is needed. Information from not only parents but from teachers and the children themselves is required to plan effective interventions. Further, the number of children with clinically important emotional and behavioural problems is so large that clinical services alone can never deal adequately with the problem. A combination of universal, targeted and clinical interventions are needed, all carried out against the background of a civic community.

Seventh, and last, the existing data in the mental health domain have strengths and weaknesses. One of the strengths is that much information is available at the provincial level and indicates important interprovincial variations, for example, in hospitalization rates for assault and abuse and neglect, and on children and youth in care up to age 16. The genesis of these variations obviously needs to be explored as does their policy implications. Another strength is the availability of data from the National Longitudinal Study of Children and Youth (NLSCY). Since this is a prospective study, information on the different pathways children follow through their developmental years will be available. This may make it possible to target more accurately groups of children who need special attention early on. A limitation of the data presented in this chapter is that they are cross-sectional and thus cannot establish temporal sequence. This makes it impossible to identify with certainty causal risk and protective factors for emotional and behavioural problems in children. Lastly, although the NLSCY is a valuable resource, it cannot take the place of community-specific data. Such data can be used by communities to raise the life quality and improve the life chances of their children.

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CHAPTER NINE

Chapter 9

Children & Youth with Disabilities

> **“... *We celebrate our children who have called forth our humanity. As families from across Canada who have children with disabilities, we call into question the underlying assumption that, in a perfect world, there is no disability. From our hearts and experiences, we celebrate all our children - especially those with disabilities - because they have helped us to learn what it is to be truly human. Their gifts, including their fierce determination, have helped us build better lives and healthier families and communities ... Celebrate their courage, and use their lives as models of truly healthy development ... It’s time to recognize the natural diversity of human beings...*”**
>
> **A statement prepared at a national symposium by families involved with disability organizations.**

The purpose of this chapter is to highlight the issues that potentially impact on the well-being of children and youth with disabilities and their families and to discuss their policy implications. As such, the focus is on the gaps in services, the barriers to full participation in all spheres of social and economic life, and the stressors that result.

It is clear that children with disabilities are potentially more vulnerable than other children, and that they are “falling between the cracks” in health and social systems intended to support healthy development. The focus has not been on the love that parents and children share, the strengths that families have, or the ways that families and communities embrace diversity. The statistical information available today sheds little light on the resilience of children and youth with disabilities and their families.

Increasingly, families of children with disabilities are voicing the need for a more holistic understanding of child health and child development. They are looking for ways of thinking which uphold the dignity, value and rights of all children, regardless of disability and other differences.

As much as possible, CICH draws on information with a national population base. In the second edition of *The Health of Canada’s Children: A CICH Profile*, the disability chapter was based on data from the 1991 Health and Activity Limitation Survey (HALS). In the absence of a more recent disability survey, this chapter is based largely on data from the 1996-97 National Population Health Survey (NPHS). This was not specifically designed as a disability survey; however, respondents were asked: “Because of a long-term physical or mental condition or health problem, are/is you/he/she limited in the kind or amount of activity you/he/she can do?” For the purposes of this chapter, answering “yes” to this question indicated the presence of an activity limitation or disability. This is an imperfect approach as some types of activity limitation do not constitute disabilities, whereas some disabilities are not necessarily identified as limiting activity (Learning Disabilities, for example, are not necessarily identified using the activity limitation approach).

Clearly, activity limitation is a very broad category, including a wide range of conditions and health problems, with diverse implications for health and well-being. A detailed, more comprehensive survey, focusing on the health and well-being of children and youth with disabilities and the details of their day-to-day lives, is urgently required to better understand the relationship between different disabilities and various economic, social and personal factors. Without this information, it is difficult to understand how best to assist children and youth with disabilities and their families. The absence of accurate and up-to-date information about children and youth with disabilities may explain, in part, the inadequate response of all levels of government in meeting the needs of these families.

Other sources of information in addition to the NPHS were utilized to raise important issues about the impact of disability on daily life. In some cases, these sources were also population-based, such as the Canada Mortgage and Housing Corporation data or the B.C. Adolescent Health Survey. A few research studies, based on relatively small sample sizes, were used to highlight concerns and promote further research.

How many children and youth have disabilities?

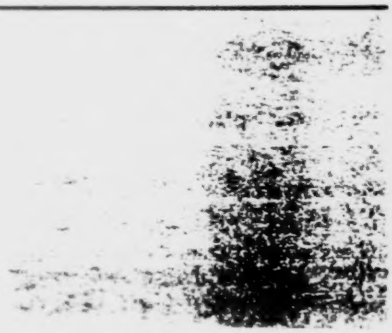
To determine disability rates, many surveys, such as the National Population Health Survey, ask about "activity limitation" over time. A condition that persists over time and that limits the activities of a person is considered a disability. According to the 1996-97 National Population Health Survey (NPHS), approximately 564,575 children and youth between birth and 19 years of age (7.7%) had an activity limitation or disability. This figure is similar to the 7.2% determined by the 1991 Health and Activity Limitation Survey.

Do disability rates vary by age and gender?

According to the 1991 HALS and the 1996-97 NPHS, the rate of disability varies by age group and gender. The rates are higher for older children than for younger children. It is important to keep in mind that many disabilities, such as Learning Disabilities, are not diagnosed until the school years even though they are present from birth. Thus, the lower rates among preschool children must be interpreted with caution. According to these surveys, among younger children (under ten years of age), boys have a higher rate of disability than girls. Among older children (ten years of age and older), the difference between the genders is diminished. The highest rate of disability was reported for female youth aged 15-19.

Is the number of children and youth with complex care needs increasing?

Within the population of children and youth with disabilities is a smaller group with complex care needs. In the absence of recent survey data on children and youth with disabilities, it is not possible to accurately estimate how many children with complex care needs are living in Canadian communities. The impacts of disability on their lives and the lives of their families have been explored through small, research studies. Provincial and national data are, however, lacking. There are important questions that need to be explored. To what extent are these children and youth able to participate fully in family life, school, community life and society? What services and supports do children and youth with disabilities need? How well are children and youth with disabilities and their families navigating the transition to adulthood? A comprehensive study is urgently needed, which investigates the impact of disability on the lives of these children and their families and identifies the services and resources that they require.

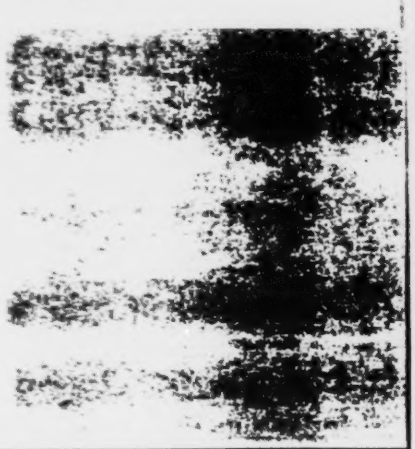


YOUTH SO SOBER

YOUTH NEED HELP
FROM EVERY SOURCE
HELP US FIND A WAY
SEE OUR NEEDS
HOPE YOU WILL STAY
FIND US A WAY

BE THERE FOR US
GET TO KNOW US
SEE WHO WE ARE

A memowriter poem by David W. Eastham, a non-verbal student with autism and apraxia



What economic and personal issues confront the families of children and youth with disabilities?

In the absence of appropriate social supports, caring for a child or youth with a disability can negatively affect family income. According to the 1996-97 National Population Health Survey (NPHS), although the income of most families came from employment, families with children with activity limitations were somewhat less likely to report employment income as their main source of income than other families. The level of income from sources other than employment tends to be low. In the absence of adequate services and resources, caring for a child or youth with a disability can negatively impact on the well-being of family members. A study in Nova Scotia found that the parents of children and youth with disabilities often experienced severe or high levels of tension juggling work, family and child care arrangements. Another study found that the parents of children with complex care needs considered respite services a priority concern. There is an urgent need for more data on the need for and availability of supports for families, including enhanced respite care. Research has found that, for the best outcomes, it is important to support all members of the family through appropriate services and resources.

Do children and youth with disabilities differ from children without disabilities in their health behaviours?

Because the 1996-97 NPHS is not a disability survey, the sample size of children and youth with disabilities is too small to permit a detailed investigation of the differences between the health behaviours of children and youth with disabilities and those of children and youth without disabilities. However, the NPHS does indicate that young people (aged 15-24 years) with activity limitations are more likely to have ever smoked than young people with no activity limitations. Youth (aged 10-19 years) with activity limitations were also more likely to have consumed alcohol in the past year. According to the Adolescent Health Survey in British Columbia, youth with an activity limitation or chronic condition were more likely to have been injured and to have engaged in risky behaviours than other students. These findings suggest that, for some children and youth, having an activity limitation is a risk factor for unhealthy behaviours. The NPHS cannot, at this time, indicate whether particular kinds of activity limitations are most likely to be associated with risky health behaviours than others. Further, in the absence of a comprehensive, national disability survey, it is difficult to assess how age and gender combine with disability to affect personal health behaviours.

How do Learning Disabilities shape the lives of children and youth?

In the absence of appropriate services and resources, children and youth with Learning Disabilities are particularly vulnerable to a wide range of negative outcomes. They are more likely to drop out of school. Some young people with Learning Disabilities are less able to distinguish effectively between acceptable and unacceptable behaviours, or they may be less able to learn from experience. Other young people with Learning Disabilities feel alienated and unhappy. As a result of these factors, some young people with Learning Disabilities are at an elevated risk for criminal behaviour. Young people with Learning Disabilities may also be more likely to engage in other high risk behaviours. Preliminary research warns that young people with Learning Disabilities may be over-represented among "street youth". The early identification of Learning Disabilities and early intervention are essential to success in school and effective personal relationships.

Glossary of Terms:

Surveys and studies define disability differently. The following definitions are from the widely utilized International Classification of Impairments, Disabilities and Handicaps (ICIDH-2). This chapter focuses largely on activity limitation (the RAC6F1 variable in the National Population Health Survey), its impact on participation and its implications for health and well-being.

An **impairment** is a loss or abnormality of body structure or of physiological or psychological functioning. Impairments can, but do not necessarily, result in activity limitation or disability.

An **activity** is everything that a person does, at all levels of complexity (for example, seeing, walking, eating, talking, reading, remembering and learning). An **activity limitation** is a difficulty in carrying out these activities in a way, or to the extent, expected.

Participation is the interaction of impairments and disabilities and various contextual factors (including personal factors and the social and physical environment). Impairments and activity limitations will have different implications for participation, depending on the individual and the social setting.

Activity Limitations and Chronic Conditions

According to the 1996-97 National Population Health Survey (NPHS) estimates, there were, in Canada, approximately 564,575 children and youth between birth and 19 years of age (living in households) who had disabilities. This accounted for 7.7% of that population. This figure is similar to the 7.2% determined by the 1991 Health and Activity Limitations Survey. The Roeher Institute estimates that an additional 145,000 children and youth could be "found" in the NPHS data if more variables were examined.

9

Number and Percentage of Children With a Limitation of Activity, by Age and Gender
Canada, 1996-1997

Age in years	Male N	Male %	Female N	Female %
0 to 9	169,537	10	80,393 m	5 m
10 to 19	**151,858**	**7**	**162,788**	**8**
Total	321,394	9	243,181	7

Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS.
Note: Excludes don't know, refused, not stated, and not applicable.

M= high sampling variability - interpret with caution.
Source: CICH using Statistics Canada, *National Population Health Survey, 1996-1997, Public Use Microdata Files*

9 - 7

Youth with an Activity Limitation

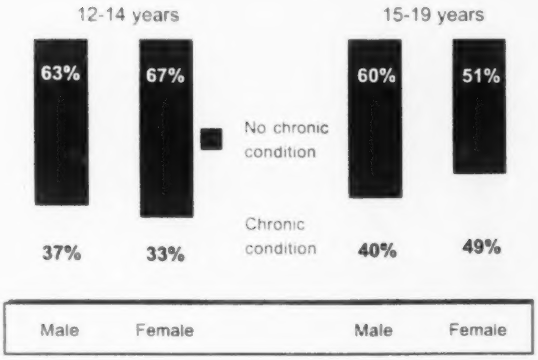
- The term "activity limitation" is broadly defined in the National Population Health Survey. It may refer to a physical, developmental, learning, behavioural or emotional problem that limits certain activities on a continuing basis.
- When interpreting data on healthy practices and risk behaviours, it is important to recognize this diversity. Not all youth with an activity limitation are equally at-risk. For example, the youth with complex care needs are less likely than most youth to engage in unsupervised smoking and alcohol consumption.
- On the other hand, research suggests that youth with Learning Disabilities are more likely to engage in risky behaviours (such as smoking, drinking, and criminal activity).

A comprehensive survey, designed to investigate the health and well-being of children and youth with disabilities, is needed to clarify the relationship between behaviour and different forms of activity limitation or disability.

According to the 1996-97 NPHS, chronic conditions are common among youth in Canada. 37% of males aged 12-14 years and 33% of females aged 12-14 years reported having a chronic condition. The rate increased with age; 40% of males aged 15-19 years and 49% of females aged 15-19 years reported having a chronic condition. *Chronic conditions included, among others, such diverse health problems as allergies, anemia, arthritis, asthma, attention deficit disorder, juvenile diabetes, epilepsy, emotional disorders, hyperactivity, neurologic disorders, physical handicaps and sexually transmitted diseases.* Various chronic conditions can have different consequences in terms of health and well-being. Note: This chart reports on youth aged 12-14 years, a three year age span, and youth aged 15-19 years, a five year span.

Proportion of Children and Youth Who Report Having a Chronic Condition, by Age Group and Gender

Canada, 1996-1997



Note: Coefficients were determined using Statistics Canada "bootstrap" program for NPHS.
Note: Excludes don't know, refused, not stated, and not applicable.

Source: CICH using Statistics Canada, *National Population Health Survey, 1996-1997*, Public Use Microdata Files

Children With Complex Health Care Needs

The number of children with complex health care needs living in communities across Canada is unknown. However, practitioners report that technological and medical advances have improved survival rates for children born with life-threatening physical conditions and, correspondingly, increased the number of children requiring specialized community-care. Massive trauma and degenerative disease also result in complex care needs. The families are responsible for ensuring that the financial, physical, emotional, developmental and social challenges associated with caring for their children with disabilities are met. Emergent issues identified in a recent study included: continuity of care over the life cycle, national standards for home care and support services, access to respite programs, and the need for more residential housing options (CACC, 1995).

Difficulty Hearing

The majority of children and youth in Canada do not have hearing problems. Overall, an estimated 53,000 children and youth in Canada have hearing problems. Of those children with hearing problems, a substantial proportion use hearing aids or other technical aids. The rate of hearing problems in the different age categories varies little.

9 -

Percentage of Children With No Hearing Problems, by Age Group and Gender
Canada, 1996-1997

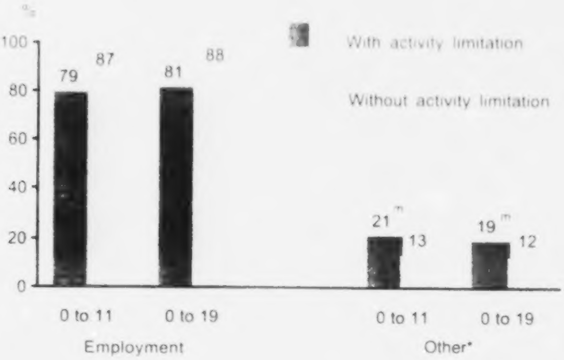
	Male (%)	Female (%)
Age in years	No hearing problem	
4 - 9	99.0	99.1
10 - 14	99.6	99.0
15 - 19	99.4	99.1

Note: Excludes don't know, refused, not stated, and not applicable

Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997*, Public Use Microdata Files

9 - 6

Source of Household Income by Activity Limitation Status and Age, Children Birth to 11 Years and Birth to 19 Years
Canada, 1996-1997



Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS
Note: Excludes don't know, refused, not stated, and not applicable

M= high sampling variability (Reading left to right c.v.= 29, 19). Interpret with caution.
* Includes unemployment insurance, workers compensation, seniors benefits and other
Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997*
Public Use Microdata Files

Determinants of Health and Well-Being

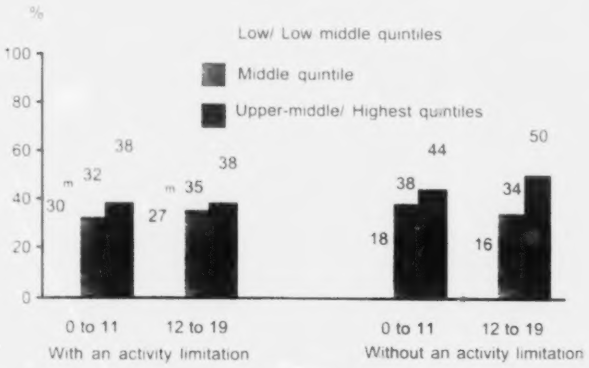
Social and Economic Conditions

Children and youth with a restriction of activity were somewhat more likely to live in a household where employment was not the main source of income. 79% of children under 12 years of age with an activity limitation lived in households where the main source of income was employment, whereas 87% of children under 12 years of age with no activity limitation did. The pattern was very similar for children from birth to 19 years of age. This may be explained, in part, by barriers to employment. According to research summarized in Irwin and Lero (1997), parents with children with special needs often find it difficult to make satisfactory child care arrangements that would enable them to work full- or part-time.

Children with an activity limitation were more likely than children and youth with no activity limitation to live in lower income households. 30% of children under 12 years of age with an activity limitation lived in households that fell into the lower two income quintiles compared with 18% of children under 12 years of age with no activity limitation. The NPHS is not a disability survey and the sample size for children and youth with activity limitations is too small to permit a detailed analysis of income adequacy, child age, and other household characteristics. However, many researchers have identified child care as a key factor for parents in balancing work and family responsibilities. For parents with children with special needs, child care may be a particular challenge (Irwin and Lero, 1997).

9

Income Adequacy, by Activity Limitation Status, Children Birth to 11 Years of Age and Youth Aged 12-19 Years
Canada, 1996-1997

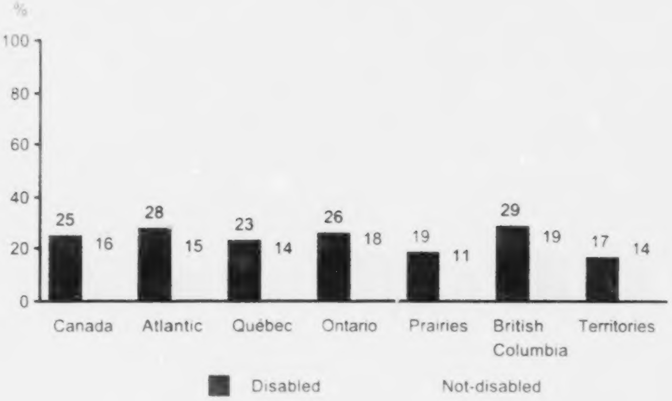


Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS
Note: Excludes don't know, refused, not stated, and not applicable.
M= high sampling variability (Reading left to right, C.V = 21, 17). Interpret with caution.

Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997.* Public Use Microdata Files

9 - 8

Proportion of Children Less Than 15 Years of Age Living in Housing Need, by Disability Status
Canada and Regions, 1996



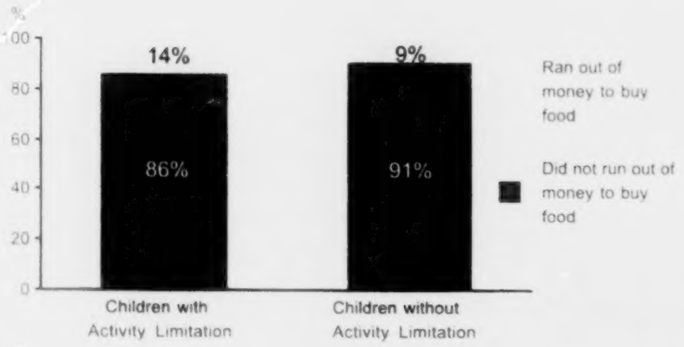
Source: Special runs conducted for CICH by Canada Mortgage and Housing Corporation. John Engeland and Cynthia Piché, 1999.

Housing need is measured by the Canada Mortgage and Housing Corporation using three standards: housing suitability (e.g. no crowding), adequacy (e.g. not in need of repair) and affordability (less than 30% of income). A household is in housing need if its housing does not meet one or more of these standards. Families who could afford to live in suitable, adequate, affordable rental housing, but choose not to, are not counted as living in need. Across the country, having a disability increases the likelihood of living in housing need. Non-Aboriginal families raising children with disabilities were half as likely again to live in housing need as their counterparts whose children do not have disabilities. One in every four non-Aboriginal families supporting children with disabilities lived in housing need in 1996.

According to the 1996-97 NPHS, children from birth to 19 years of age with an activity limitation are at slightly elevated risk for experiencing food insecurity (defined as running out of money to buy food.) 14% of children with an activity limitation lived in families that ran out of money to buy food at least once, whereas 9% of children without an activity limitation did.

9

Disability and Food Security of Children From Birth to 19 Years of Age
Canada, 1996-1997

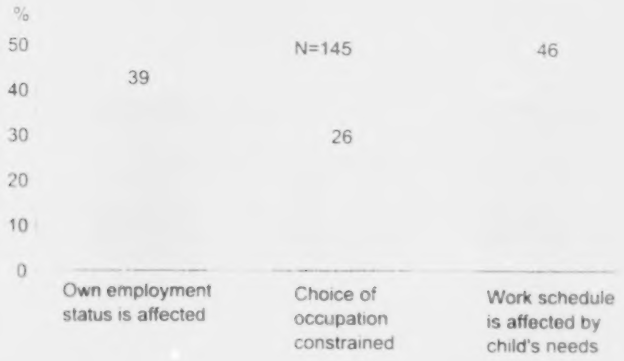


Note: Coefficients were determined using Statistics Canada "bootstrap" program for NPHS
Note: Excludes don't know, refused, not stated, and not applicable.

Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997.* Public Use Microdata Files

9-10

Effect on Employment of Having a Child With Special Needs
Total of CUPW Families and Comparison Group*, 1995



*All the families in this study, whether with the Canadian Union of Postal Workers (CUPW) or in the Comparison Group, are families with children with special needs. CICH, therefore, decided to report on the total population in the survey.
Note: 74% of respondents are mothers.
Source: Irwin, S.H. and Lero, D.S. 1997. *In Our Way: Child Care Barriers to Full Workforce Participation Experience by Parents of Young Children with Special Needs - and Potential Remedies.*

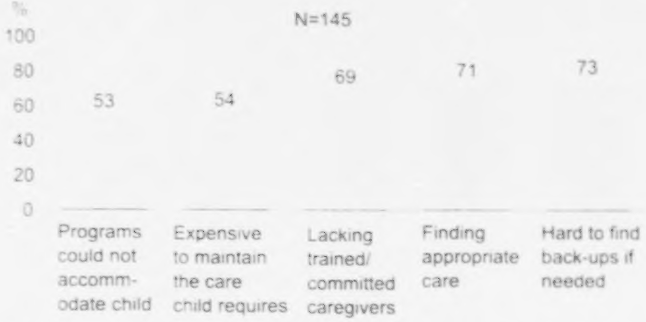
Irwin and Lero (1997) asked parents how their child's special needs affected their work. 39% of the respondents indicated that their own employment had been affected. 26% indicated that their choice of occupation had been constrained and 46% indicated that their work schedule had been affected by their child's needs. The majority of these respondents were women. Aside from the potential financial repercussions, having a sense of control over one's life is an important component of population mental health and well-being. Without a coordinated, comprehensive support system, a parent whose child has special needs is less likely to feel he or she has control over their situation. This can negatively impact on the quality of family life, increasing overall tension and stress.

Access to quality child care that is developmentally-based is essential if parents are to participate in the labour force. The majority of parents surveyed by Irwin and Lero (1997) had difficulty finding care for their child with special needs. 53% of parents indicated that programs could not accommodate their child. 54% indicated that the care was expensive to maintain. 69% indicated that there were too few trained and committed caregivers for children with special needs. Finding appropriate care and reliable backups were the most commonly reported problems at 71% and 73%, respectively. Governments, employers, communities and families all must coordinate roles in creating a universally accessible child care system that works for all families with children.

9

Percentage of Parents With Difficulties Finding Child Care for a Child With Special Needs

Total of CUPW Families and Comparison Group*, 1995



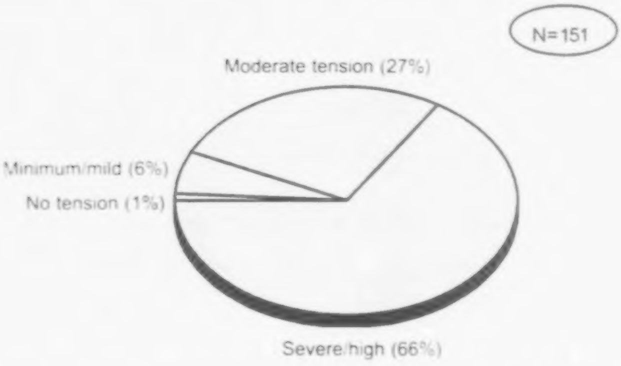
*All the families in this study, CUPW and Comparison Group, are families with children with special needs. CICH, therefore, decided to report on the total population in the survey.

Source: Irwin, S.H. and Lero, D.S. 1997. *In Our Way: Child Care Barriers to Full Workforce Participation Experience by Parents of Young Children with Special Needs - and Potential Remedies.*

9 - 12

Overall Tension Felt by Parents Juggling Work, Family and Child Care Responsibilities

Total of CUPW Families and Comparison Group*, 1995



*All families in this study, CUPW and Comparison Group, are families with children with special needs. CICH, therefore, decided to report on the total population in the survey.

Source: Irwin, S.H. and Lero, D.S. 1997. *In Our Way: Child Care Barriers to Full Workforce Participation Experienced by Parents of Young Children with Special Needs - and Potential Remedies.*

According to Irwin and Lero (1997), the proportion of parents with children with special needs reporting moderate and high tension (93%) as a consequence of juggling work, family and child care responsibilities is a matter of immediate concern. High levels of tension put the health and well-being of parents and the parent-child relationship at risk. Moderate levels may also compromise quality of life. Given that the majority of respondents were women and given that women often carry a disproportionate level of responsibility in the area of child care, these high levels of tension may be gender-related. Appropriate services and supports, if widely available, could reduce these levels of tension.

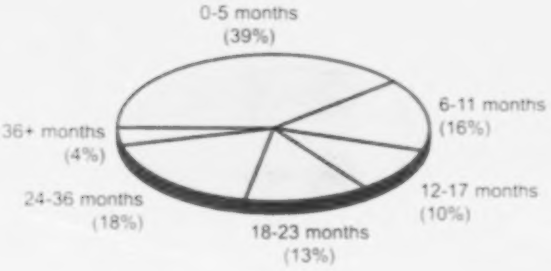
Health and Social Services

In British Columbia, the greatest percentage of referrals to infant development programs is made between birth and five months of age (39%). The second most common age for referral is between twenty-four and thirty-six months (18%). The importance of early identification and early intervention in the case of delays and disabilities has been clearly established. This is when the greatest impact can be made most easily for both the child and the parents. This is a critical time for parents, as they adapt to the challenges of raising a child with special needs. However, identification and intervention continue to be important throughout childhood.

9-13

Age at Referral to Infant Development Programs, by Number of Months

British Columbia, 1997-1998

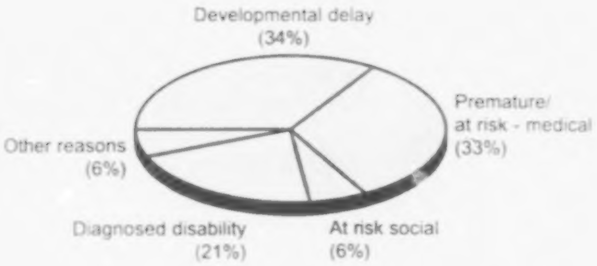


Source: Infant Development Program of British Columbia. Personal communication, 1999.

9-14

Reasons for Referral to Infant Development Programs

British Columbia, 1997-1998



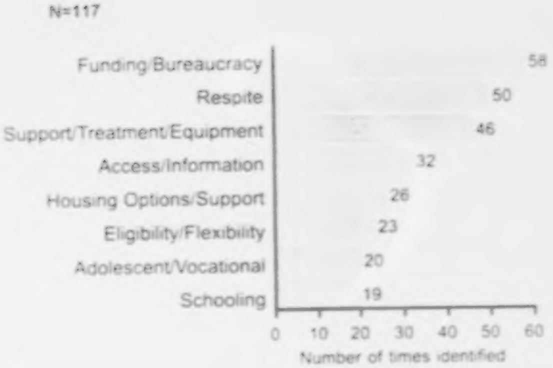
Source: Infant Development Program of British Columbia. Personal communication, 1999.

Developmental delays account for roughly one third (34%) of all referrals to infant development programs in B.C. Another third (33%) of referrals is made for follow-up after preterm birth or other medical risk factors. 21% are made as the result of a diagnosed disability. Referral to a program may or may not result in on-going follow-up; it does, however, provide the opportunity for early assessment and, if necessary, intervention.

Due to the absence of uniform data collection both within and across provinces, the number of parents caring for children with complex health care needs at home is unknown. The Canadian Association for Community Care (1995), however, asked the parents/caregivers of these children to identify gaps, difficulties and barriers to home-based care. They frequently identified issues around funding and bureaucracy. This is not surprising as, according to the Canadian Coalition on the Rights of the Child (1999), there is little government income support for family members who are the primary caregivers of children with disabilities. The parents and caregivers also identified the need for respite care, the need for more residential housing options and the need for more home care and home care options.

9 - 15

Number of Times Parents or Caregivers Identified Gaps, Difficulties or Barriers to Home Based Care for Medically Fragile Children
Canada, 1995



Source: Canadian Association for Community Care. 1995. *Home Based Care for Medically and Psychologically Fragile Children. Phase 1 Report.*

The need for continuity of care for children and youth with disabilities is paired with the need for a coordinated, integrated approach.

9 - 16

Continuity of Care for Children and Youth with Disabilities and their Families

- A full range of integrated services is essential to the maintenance of a healthy family life. Without access to necessary services, family life can be severely compromised.
- Integration involves a smooth transition from hospital to home for children with complex care needs, a seamless system offering continuity of care from birth through childhood, and a system that brings together medical, educational and social services.
- Particular focus is needed on sensitive periods such as birth or diagnosis, discharge from hospital, transitions between programs, starting school, and the move to independent living.

Source: Hayes V. et al. 1997. *Services for Children with Special Needs in Canada.*

Parenting of children and youth with disabilities can be physically and emotionally draining. Respite services offers parents and caregivers significant support, providing the opportunity to visit friends, run errands or take personal time to rejuvenate. There is little currently known about the number of families making use of respite services. There is also little known about the number of families who would benefit from access to respite services. However, research suggests that the need for respite is not limited to any particular types of disabilities (Hayes et al, 1997) and that demand for affordable, appropriate, quality respite services is not satisfied with the current supply.

9-17

Respite Care

9-18

Children with Disabilities in the Care of Child Welfare

- A 1997 study estimated the number of children with disabilities in care in Alberta, determining that almost 7 in 10 children in care had at least one disability. An estimated 1 in 4 children had two disabilities.
- An intensive file review of 100 children with disabilities in care revealed that 35% had physical and/or developmental disabilities, 25% had a mental illness and 24% were diagnosed as having ADD or ADHD.
- Of these 100 children, 58% lived in foster families, 12% were in residential treatment or group care while the remainder lived in a variety of other arrangements.
- Among children who had been in care for 10 years or more, FAS and FAE were the most commonly identified disabilities.
- The survey found that Aboriginal children in care were 2 times as likely to have FAS/FAE when compared to Caucasian children in care.

Source: Alberta Family and Social Services Child Welfare and The Alberta Association for Community Living, 1997. *Children with Disabilities in Care.*

According to a study conducted by Alberta Family and Social Services and the Association for Community Living (1997), a significant proportion of the children in the care of child welfare have disabilities. The percentage of children with disabilities in the care of child welfare increases with age. The report noted that there was a need for more and better assessment and diagnostic tools and skilled professionals to help children with disabilities who are in care. The report also recommended the inclusion of disability information in child welfare databases to support evidence-based policy and program development. Note: The figures in this study refer to both "diagnosed" and "suspected" disabilities.

Educational Success

Currently, there is an urgent need for information on children with Learning Disabilities. How many children in Canada have Learning Disabilities? At what age are Learning Disabilities commonly diagnosed? What percentage of children with Learning Disabilities receive appropriate services through schools? How do Learning Disabilities affect the lives of children and their families? What difference do special education services make in the lives of these children? This information is essential to effective policy development and planning. The 10% to 12% estimated based on the NLSCY is higher than the overall rate of activity limitation for children and youth estimated by the NPHS.

9

Children and Youth with Learning Disabilities

- Learning Disabilities are congenital or acquired neurological conditions that can affect all aspects of intellectual, social and emotional functioning.
- Approximately 10% - 12% of all children have some degree of cognitive deficits and Learning Disabilities. One in ten children received some form of remedial education during 1995-96 (NLSCY). 51% of these children had Learning Disabilities.
- Learning Disabilities can have a profound effect on the lives of children, youth and adults. Children and youth with Learning Disabilities are at least twice as likely to drop out of school than their non-disabled peers. Further, youth with Learning Disabilities are substantially over-represented among young offenders.

Source: Learning Disabilities Association of Canada. 1999. *Fact Sheet: Learning Disabilities Statistics.*

9

Enrolment in Elementary, Secondary Schools and Schools for the Blind and the Deaf

Canada, 1992-1993 to 1995-1996

	Public	Private	Federal	Schools for the blind and the deaf
1992/93	4,967,848	257,605	56,416	2,276
1993/94	5,002,834	265,275	57,378	2,339
1994/95	5,029,114	271,974	59,383	2,328
1995/96	5,095,901	277,704	64,268	2,461

Source: Statistics Canada. 1995. *Education in Canada.*

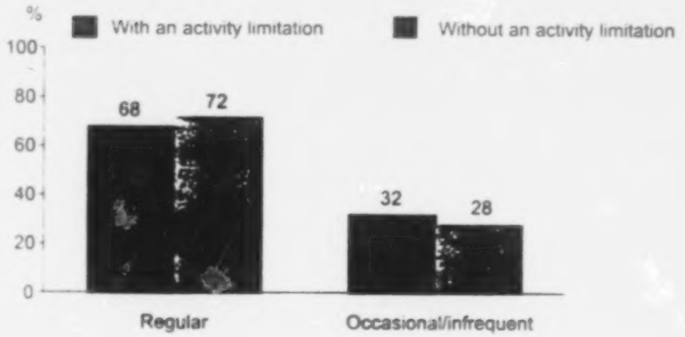
Children who are blind or deaf often attend specialized schools in order to optimize their learning opportunities. According to the 1999 report on children and youth with disabilities by the Canadian Coalition on the Rights of the Child, the public school system is often the "least enabling environment" (CCRC, 1999: 21). The number of children enrolled in schools for the blind and the deaf remained relatively stable between 1992/93 and 1995/96, increasing by about 200 children.

Health Behaviours

Exercise contributes to physical and emotional health and well-being. According to the 1996-97 National Population Health Survey, the majority of youth aged 12-19 years, with an activity limitation, exercised "regularly". The rates of regular exercise for youth aged 12-19 years with and without activity limitation were comparable.

9-21

Frequency of Exercise, Children Aged 12-19 Years, by Activity Limitation Status
Canada, 1996-1997

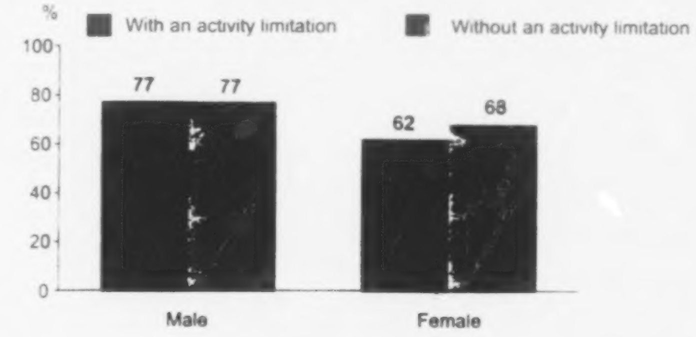


Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS.
Note: Excludes don't know, refused, not stated, and not applicable.

Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997.* Public Use Microdata Files

9-22

Percentage of Children, Aged 12-19 Years, Who Exercise Regularly, by Activity Limitation Status and Gender
Canada, 1996-1997



Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS.
Note: Excludes don't know, refused, not stated, and not applicable.

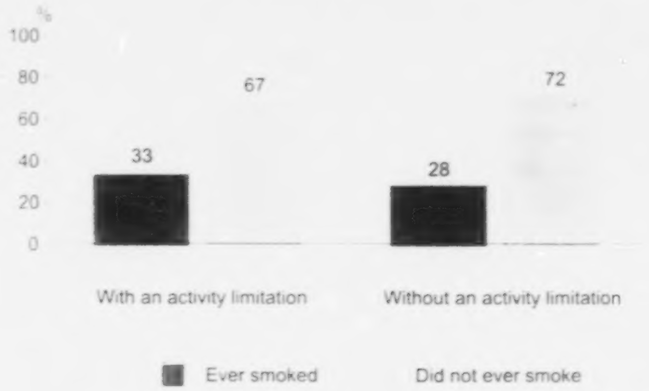
Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997*
Public Use Microdata Files

According to the 1996-97 NPHS, female youth aged 12-19 years with an activity limitation were somewhat less likely to exercise regularly (62%) than their female peers with no activity limitation (68%). In fact, they were the least likely of all youth to indicate that they exercised regularly. Overall, female youth were somewhat less likely to exercise regularly than male youth. Regular exercise improves physical well-being and is also associated with improved mental heath and well-being.

According to the 1996-97 NPHS, youth with an activity limitation were slightly more likely to report "ever" smoking. The 1996-97 NPHS is not a disability survey and the size of the sample of children and youth with disabilities is too small to permit a more detailed analysis of smoking behaviours by disability status, age, gender and other factors.

9

Proportion of Respondents With Activity Limitation, Aged 15-24 Years, Who Have Ever Smoked
Canada, 1996-1997

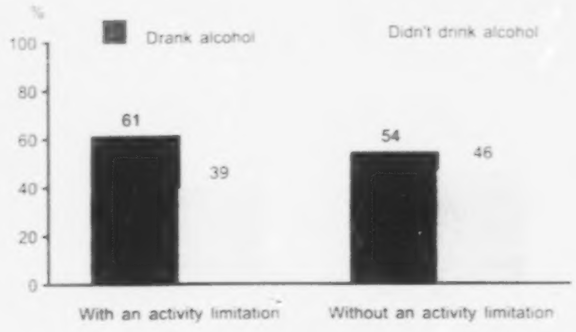


Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS.
Note: Excludes don't know, refused, not stated, and not applicable.

Source: CICH using Statistics Canada, *National Population Health Survey, 1996-1997*, Public Use Microdata Files

9-24

Percentage of Children and Youth Aged 10-19 Who Drank Alcohol in the Past Year, by Activity Limitation Status
Canada, 1996-1997



Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS.
Note: Excludes don't know, refused, not stated, and not applicable.

Source: CICH using Statistics Canada, *National Population Health Survey, 1996-1997*, Public Use Microdata Files

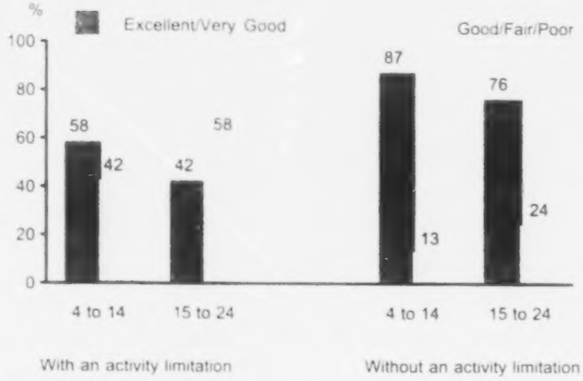
According to the NPHS, a substantial proportion of youth consume alcohol. Youth with an activity limitation were somewhat more likely to consume alcohol than youth with no activity limitation. The NPHS is not designed as a disability survey and the sample size is too small to permit a detailed analysis of drinking patterns by disability status, age, gender and other factors. The drinking behaviours of youth with an activity limitation may reflect common modes of youth socialization. However, they may also reflect social isolation and loneliness, problems associated with having a chronic or disabling condition (McCreary Centre Society, 1994a).

Health and Well-Being Outcomes
General Health

Children and youth with disabilities, defined in terms of activity limitation, were less likely to report being in "excellent" or "very good" health than children and youth with no activity limitation. 58% of children aged 4 to 14 years with an activity limitation reported "excellent" or "very good" health compared with 87% of children the same age with no activity limitation. Among youth aged 15 to 24 years with an activity limitation, 42% reported "excellent" or "very good" health compared with 76% of youth of the same age with no activity limitation. Recognizing that many children and youth with activity limitations are in excellent or very good health is important, as is finding ways to narrow the health gap between them and children and youth with no activity limitations.

9

General Health Status, By Activity Limitation, Children Aged 4-14 and Youth Aged 15-24
Canada, 1996-1997

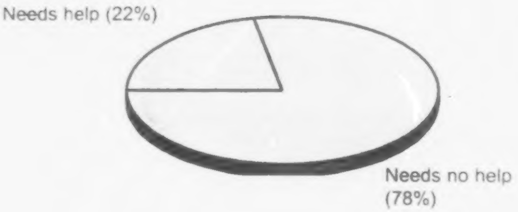


Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS.
Note: Excludes don't know, refused, not stated, and not applicable.

Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997*, Public Use Microdata Files.

9-26

Need for Help, 10-24 Year Olds With a Restriction of Activity
Canada 1996-1997



According to the 1996-97 NPHS, 22% of youth aged 10-24 years with an activity restriction indicated that they required help with their activities. The need for help is one measure of the extent to which chronic or disabling conditions affect day-to-day living. A more comprehensive disability survey is needed if we are to better understand the support needs of children and youth with disabilities who need help with some of the activities of everyday living.

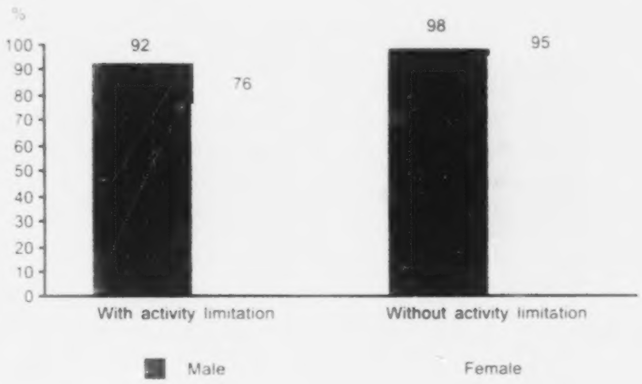
Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS
Note: Excludes don't know, refused, not stated and not applicable.

Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997*, Public Use Microdata Files.

According to the 1996-97 NPHS, the majority of youth aged 10-19 with and without activity limitations reported experiencing "no pain" on a regular basis. Female youth with an activity limitation were, however, less likely to report "no pain" (76%) than the other groups. A more detailed disability survey is needed to better understand the relationship between activity limitation, pain and gender among youth with disabilities.

9-27

Respondents Who Indicated "No Pain",
by Gender and Activity Limitation Status, Aged 10-19
Canada, 1996-1997

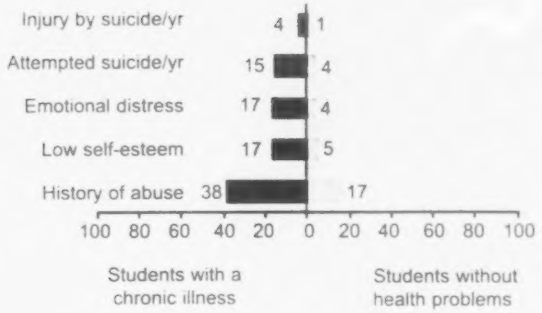


Note: Coefficients were determined using Statistics Canada's "bootstrap" program for NPHS.
Note: Excludes don't know, refused, not stated and not applicable.

Source: CICH using Statistics Canada. *National Population Health Survey, 1996-1997*. Public Use Microdata Files.

9-28

Mental Health Correlates of Being Chronically Ill/Disabled
British Columbia, 1992



Source: The McCreary Centre Society. 1994. *Adolescent Health Survey: Chronic Illness and Disability Among Youth in British Columbia.*

According to the McCreary Centre Society (1994a), some important mental health indicators are positively associated with having a chronic illness or disability. Children and youth with a chronic illness or disability were more than twice as likely to report a history of abuse than children and youth without health problems. A far greater percentage of them reported emotional distress and low self-esteem. They were also more likely to attempt suicide and more likely to be injured in a suicide attempt.

Illness and Injury

43% of the children in the study by Irwin and Lero (1997) had been ill in the past twelve months and 45% had been in hospital at least once. Child illness can require parents to miss work or re-arrange their work schedules. Flexibility in the workplace is an important factor influencing the ability of families to meet the needs of their children and their jobs. Responding to their child's illness is an issue for all parents but it can present particular problems to parents of children with special needs. It may occur more often or it may be more difficult to arrange alternative care. A surprising point in the findings of Irwin and Lero's study (1997) is the number of children with special needs who are not regularly involved with the health care system.

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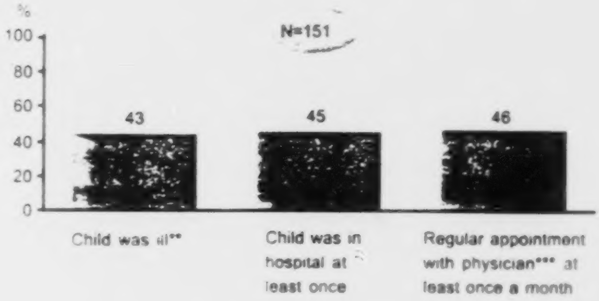
Percentage of Children With Medical Needs in the Past Twelve Months

Total of CUPW Families and Comparison Group*, 1995



*All families in this study, CUPW and Comparison Group, are families with children with special needs. CICH, therefore, decided to report on the total population in the survey

** Unable to participate in normal activities for 3 or more days at least 3 times

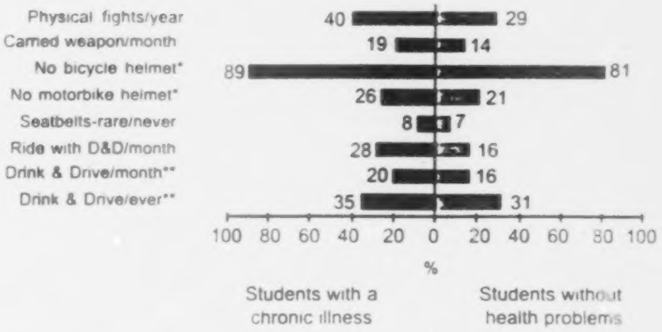
*** Or therapist

Source: Irwin, S.H. and Lero, D.S. 1997. *In Our Way: Child Care Barriers to Full Workforce Participation Experience by Parents of Young Children with Special Needs - and Potential Remedies.*

9 - 30

Injury Correlates of Being Chronically Ill/Disabled Students Grades 9-12

British Columbia, 1992



*"No" means used rarely or never

**Licensed drivers only

Note: D & D = drinking driver

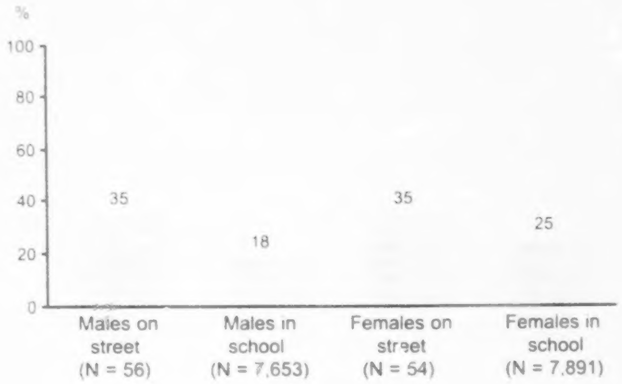
Source: The McCreary Centre Society. 1994. *Adolescent Health Survey: Chronic Illness and Disability Among Youth in British Columbia.*

According to the McCreary Centre Society (1994a), students with chronic and/or disabling conditions which restrict their activities are somewhat more likely to be injured and to engage in risky behaviours than other students. Notably, 40% of students with activity limitations were involved in physical fights in the year before the survey, compared with 29% of other students. Also striking, 28% of students with activity limitations rode with a drunk driver compared with 16% of other students. These figures indicate that far too many youth in general put their health at risk by riding with intoxicated drivers. (Youth may also become disabled after riding with people who were drinking).

According to the McCreary Centre Society study (1994a), 35% of both male and female street youth reported having a physical condition or health problem that limited normal activities. This was considerably higher than the proportion of male and female youth in school. Youth on the street represent a very vulnerable population with reduced access to adequate financial resources, nutritious food, educational opportunities, safe living conditions, and preventive health care and/or treatment, all essential determinants of health.

9 - 31

Physical Condition or Health Problem That Limits Normal Activities in Youth*
Vancouver, 1994



* Street youth were age 18 years and younger; youth in school were from grades 9-12.
Source: The McCreary Centre Society. 1994. *Adolescent Health Survey: Street Youth in Vancouver.*

9 - 32

Impact of Disability on Day-to-day Life

Little current population-based data are available on the health and well-being of children and youth with disabilities who require daily care. What is the impact of disability on their lives and the lives of their families? To what extent are these children and youth able to participate in family life, school, community life and society? What services and supports do the families of children and youth with disabilities need? How well are youth with disabilities who require daily care navigating the transition to adulthood?

Children and Youth with Disabilities

By Dr. Sharon Hope Irwin

Canada has overlooked the needs of children with disabilities. Costly problems of their adulthood can be eliminated or greatly ameliorated through committed, vigourous initiatives right now. Action in the early years is the most cost-effective. Families of infants with disabilities are caught up in a fragmented social service system that ignores their additional fundamental needs. Existing employment programs are not flexible enough to give the extra time off a mother may need to establish skills and rapport with her baby, or the extra time needed because her baby is hospitalized. Even if she finds satisfactory child care and goes back to work, there is no support for time off required for the child's therapists and physicians or for extended illnesses. Many mothers of children with disabilities have to leave the workforce and subsist on welfare (see table 9.6). And whether employed or not, fragmented social service systems make access to services frustrating, time-consuming and often impossible.

It does not have to be like this. The child's disability does not have to handicap (and often destroy) the family. In Sweden, for example, children with functional impairments are supported in regular preschools. Parental insurance includes up to 450 days for every child, and can be taken until the child is eight years of age. If any parent needs time off to care for a sick child, temporary parental benefits are paid--normally up to 60 days a year at 80% of income. And parents of children with disabilities get an additional ten "contact days" off work every year with financial compensation, to accompany their children to school or day care centre. Temporary parental benefits are available for all children up to age twelve and, for disabled children, parental benefits apply through age 21.

The United States provides many more entitlements and protections to a family with a child with a disability. The Individuals with Disabilities Education Act (IDEA, 1992), mandates "free and appropriate education in the least restrictive environment" for persons with disabilities ages 3 to 21. The Americans with Disabilities Act, (ADA, 1990), provides legal remedies for discrimination based on disability, including exclusion from family daycare homes. In Canada, there are no judicial remedies for discrimination against children based on their disability. In other words, in every province, child care centres are free to exclude children with disabilities.

Education

Canadian families cannot expect much better when the child with disabilities reaches school age. In all provinces, educational rights of children and youth with disabilities are extremely tenuous. A recent Supreme Court of Canada ruling codifies limits to inclusion, supporting education systems over parental and child preference. In September 1999, Ontario told parents of children with disabilities to keep the children home until teaching assistants were hired. No province has enshrined "free and appropriate education in the least restrictive environment" for persons with disabilities. Families with children with disabilities are facing cutbacks in teaching assistants and teacher-training for inclusion--and shorter school days for children with disabilities. Moreover, cutbacks in related services funded under Health and Social Services (such as therapies, assistive transportation, assistive devices) have further reduced access to education for children with disabilities.

Post-secondary Education and Transition to Employment

Again, Canada fails. The U.S. IDEA mandates specific school-to-work transition planning to address the generally low rates of employment experienced by youth and adults with disabilities and the ADA strengthens opportunities for employment of persons with disabilities, by providing legal remedies for persons who are discriminated against by employers. In Sweden, "The aim of disability policies is full participation and equality. People with functional disabilities must have the same opportunity as others for participating in community life."

In Canada, however, there is no over-riding principle about either full participation or about preparation for full participation. Indeed, the devolution of employment training programs from the federal government to the provinces will likely further fragment policies and programs related to persons with disabilities. What is to be done?

Canada's supports for children with disabilities and their families are a disgrace. Despite the propaganda, if you are disabled, Canada is not "the best country to live in". Despite its wealth and fundamental decency, Canada has not revised the policies that condemn children with disabilities and their families to poverty, lack of achievement and lack of opportunity to contribute to our society. We have years of studies and the evidence which says that we can pay one dollar now or seven dollars when children grow up. The benefits of early investment are potentially greater for children with disabilities. Commitment to the inclusion of children with disabilities is both good economics and good sense.

Canada should take that initiative with pride.

Dr. Sharon Hope Irwin, the director of SpeciaLink, the National Centre for Child Care Inclusion since 1990, left the fully inclusive child care centre that she founded in order to promote high quality, fully inclusive, accessible early education and child care services across Canada. Her passion for fully inclusive child care grew as she saw families struggle to maintain their own employment while parenting children with special needs. She works locally, regionally and nationally on numerous commissions, working groups, task forces and committees.

Chapter 10

Children's Environmental Health

Highlights – Children's Environmental Health

Many data and information sources were used to develop this chapter; yet little was found on the direct implications of environmental contaminants on child health. Although exposures to some environmental hazards have decreased because of improved health and environmental standards – such as the elimination of lead from gasoline – children continue to be exposed to toxic chemicals in air, water and food. Current standards were developed to protect adults, not children, and fail to reflect new information on children's environmental health.

There is an urgent need for more and better environmental health indicators and measures. Traditional health indicators, such as life expectancy at birth, do not take into account the changing physical environment of the last fifty years, or recognize its potential implications for human health and longevity. Without this information, it will be increasingly difficult to assess the extent to which environmental factors are impacting the health of Canada's children and how best to address these through necessary policy changes. In order to protect the health of Canada's children today, the Precautionary Principle needs to be applied, leading to action on developing environmental targets through enforceable legislation.

Are children different?

Children have heightened vulnerability to a variety of exposures as a consequence of their developmental, behavioural and physiological characteristics. They receive greater exposures per unit of body weight than adults because – for their size – they eat more food, drink more liquids and breathe more air than adults. Furthermore, depending on their age, children's ability to metabolize, detoxify and excrete many toxicants is different from that of adults. Exposures at critical periods of development can result in irreversible damage to the growing nervous system, affect emerging behaviour patterns, cause immune dysfunction and have serious reproductive effects. Children's behaviour often places them at higher risk than adults to certain environmental hazards, including their exploratory behaviour, frequent hand-to-mouth activity, and proximity to the ground - all of which result in greater contact with sources of contamination.

What are the emerging issues?

Increasing respiratory illness including asthma

A variety of contaminants, in both indoor and outdoor air, are associated with respiratory problems in children. The observed adverse respiratory health effects range from subtle, non-specific symptoms, to increased cough and wheeze, increased use of asthma medication, increased rates of asthma attacks, permanent reduction in lung capacity, and increased risk for Sudden Infant Death Syndrome (Raizenne M. et al, 1998).

Who are the most vulnerable children?

Some populations of children are clearly at increased risk from high levels of contaminants in the environments where they grow, raising issues of environmental justice. Children living in poverty may be at disproportionate risk from exposure to environmental hazards. Moreover, poor nutrition of children from low income households worsens their risks from exposures to contaminants like lead and pesticides. Apartment dwellers in poorer areas are more likely to be exposed to pesticides applied in the home (e.g. to control cockroach infestations). Low income neighbourhoods are also more often in closest proximity to sources of environmental contaminants such as landfills, urban industry and roadways.

Some Aboriginal communities that maintain their culture with a closer relationship to the land and traditional subsistence practices may experience exposure to contaminants in the environment. For example, some First Nations communities in Canada use wild game and fish from contaminated lakes and rivers, food sources of contaminants that bioaccumulate in the human body. Some immigrant families may also be likely to utilize these food sources. In both cases, children may be exposed prenatally and through their diet.

Childhood asthma is the known health outcome of greatest concern as it is now the most frequent chronic childhood illness in Canada and the United States. Statistics Canada reported a four-fold increase in childhood asthma over a 20-year period, with hospital admission data reflecting this increase. While there is debate over the role of over-diagnosis in this increase, there are a number of international studies which suggest that changes in the environment may be contributing to the increase. More research is needed to assess the place of environmental factors, such as indoor and outdoor air quality, in the increase in asthma.

The rise in childhood cancers

There is evidence of increased incidence of childhood cancers. While the etiology of childhood cancer is not well understood, this may be due, in part, to earlier and improved diagnosis; however, there is some evidence of a causal link between exposure to environmental contaminants and the development of cancers.

In Canada, there has been a 25% increase in the incidence of cancer among children under 15 years of age over the last 25 years (National Cancer Institute, 1998). Cancers showing considerable increases are acute lymphocytic leukemia, tumours of the Central Nervous System (CNS) and bone tumours (Daniels et al, 1997). Despite reduced mortality from cancer in recent years, it is, after injuries, the second most common cause of death of children in Canada over the age of 1 year (National Cancer Institute, 1998).

Investigating environmental causes of childhood cancer is difficult because of its rarity and multifactorial nature, the unknown critical time periods for susceptibility, and the lack of suitable experimental studies in young animals. International comparisons of incidence are hampered by differences in diagnostic practices, cancer classification and great variability in cancer registries. Greater methodological precision is necessary to further understand cancer etiology in children.

Because of the long latency of most carcinogens, childhood exposures have implications for most adult onset malignancies. Although it is more difficult to establish an association between exposures during childhood and adult cancers, there is still good reason to prevent exposure to known carcinogenic substances at the youngest ages possible.

Endocrine disruptors

Human health effects believed to be linked to early life exposures to endocrine-disrupting contaminants include: difficulties in fertilizing and conceiving, birth defects of the reproductive organs, lower sperm counts, cryptorchidism and hypospadias, testicular cancer in young men, breast cancer, and premature puberty in girls (Foster, 1998). Currently recognized endocrine disruptors interfere primarily with three hormonal systems: estrogen (the female hormone), androgen (the male hormone) and thyroid, which are critical in the development and function of the brain, immune system and the reproductive system. Exposure to environmental contaminants has adversely affected reproduction in several wildlife species, fuelling concern that a number of adverse

Can the exposure of parents to environmental contaminants affect the health of their future offspring?

Exposures of parents before they reproduce may be an indirect route of exposure to their offspring. Exposure to toxicants may have an impact on the ability of prospective parents to conceive and on the development of their future children. Many factors can cause damage to sperm and oocytes at any time prior to and right up to conception.

Immune System Effects

While the exact immunological effects from environmental contaminants are not well known, it is believed that some may be potentially immunotoxic to humans. Two main immune system effects may be associated with exposure to toxins:

1) immune sensitization or heightened function may allow for development of allergic reactions to antigens; and

2) immune suppression may render the individual more susceptible to infections and cancer. There is also some speculation that certain autoimmune disorders may be associated with environmental exposures. Despite incomplete knowledge of the precise causal mechanisms, exposure to other compounds that may result in immunological effects include: air pollutants such as ozone, nitrogen dioxide and environmental tobacco smoke; and metals such as cadmium, lead and mercury.

trends in human reproductive health may also be associated to such exposure.

Evidence suggests that a number of synthetic and naturally occurring organic chemicals, such as phytoestrogens, dioxins, PCBs, phthalate esters and DDT, may disrupt the endocrine systems of humans and wildlife. The fetus and young child may be at a particularly high risk from even very low levels of endocrine-disrupting chemicals because of the important role the endocrine system plays in development. Research has also indicated that early exposure to endocrine-disrupting compounds can interfere with the developing nervous system.

There is evidence of a causal link between exposure to environmental contaminants and the development of cancer. In Canada, there has been a 25% increase in the incidence of cancer among children under 15 years of age over the last 25 years (National Cancer Institute of Canada, 1998). Certain types of cancers have shown considerable increases, namely, acute lymphocytic leukemia, tumours of the Central Nervous System (CNS) and bone tumours. Adult cancers of the breast and testes have also shown substantial increases. Although the causes of these cancers are not well understood, possible effects of contaminants on the developing immune system and other organs during fetal life have been postulated, and require study.

While there is strong evidence of reproductive health effects associated with endocrine disruptors from a number of epidemiological studies, most of the direct evidence has come primarily from wildlife studies, such as gross birth deformities and decreased fertility rates in birds, fish and mammals in the Great Lakes region, some which were noticed 50 years ago. While data have led to a biologically plausible model of effects on human reproductive development even at low exposure levels, the significance of the findings for humans has yet to be established.

Environmental neurotoxins

Developmental and behavioural neurotoxic effects are of particular concern as more is learned about the potential for subtle degrees of impairment at even low level exposures. Brain growth in the fetus and the young child comprises neuronal replication and migration, orderly axonal and synapse development, followed by controlled synapse reduction. These various phases create "windows of susceptibility" to hazardous agents that might otherwise be innocuous to the mature brain.

This window of susceptibility to neurotoxic effects is broad because age-related development of the brain and nervous system extends from fetal stage into adolescence. Damage to the "wiring" process is thought to underlie such permanent adverse effects as cognitive disability, developmental language disorders, learning disabilities, motor disorders, effects on intelligence and behavioural disorders, attention deficits and sensory abnormalities. Neurotoxic chemicals belong principally to three groups: heavy metals and metal compounds, solvents and other simple organic compounds, and pesticides, especially the organophosphates and carbamates.

Developmental disabilities are a group of physical, cognitive, sensory, and speech impairments that arise during development through to age 18 years. The extent of developmental disabilities is not accurately known in Canada, but it is likely to parallel the statistics in the US where, for example, 12% of school children received special education services for one or more developmental disabilities, and about 2% of them had a serious developmental disability such as mental retardation or cerebral palsy, indicating a significant public health problem, with growing evidence of possible links between them and the environment (Gee, 1999).

Environment

Many factors determine whether a child is born healthy and stays healthy into adulthood. These factors are interdependent and, among them, the environment rates very high. However, the environment has not been a traditional determinant of health because, in most cases, the association between environment and health effects has been unclear. Although many developments have improved human health in the past, some have degraded ecosystem health. There is now sufficient evidence that environmental deterioration is beginning to impact the health of human populations, warranting the application of the Precautionary Principle.

Environment as a key determinant of health

Because the "environment" is where all human activity occurs, it is a key determinant of population health. Its adverse effects are seen as hazards, while its consequences for humans are framed as risks.

As a determinant of health, environment is concerned with well-being and quality of life, as well as death and disease. While a toxic exposure during critical growth stages can cause permanent damage manifesting as a specific disease, most involuntary, chronic low-level exposures are more likely to cause subtle, yet potentially serious health effects.

These involuntary exposures provide a new perspective on disease. The link is only now being acknowledged between environmental contaminants and a host of new public health problems that challenge the tenets of traditional toxicology and medicine. The classical approaches and models used in both toxicology and epidemiology, premised on single agents disrupting individual organs, do not explain these health problems.

As a determinant of health, environment affects body systems, rather than specific target organs (e.g. the heart). There is very little understanding of the effect of long-term, multiple, simultaneous, low-level exposures or the latency period for some effects to become manifest. The time lag between exposure and appearance of illness can be long enough to obscure the connection.

Children as a vulnerable population

Recognizing environment as a key determinant of health, children must be of foremost concern. Children are not just small adults, but a population with heightened vulnerability to a variety of exposures as a consequence of their developmental, behavioural and physiological characteristics.

Definition of Environment

Physical, chemical, biological and socio-economic factors in the natural and built environments that influence health status.

Precautionary Principle

When an activity raises threats of harm to the environment or human health, precautionary measures should be taken, even if some cause and effect relationships are not fully established scientifically.

Key elements of the Precautionary Principle include:

- *taking anticipatory action in the face of scientific uncertainty;*
- *exploring alternatives to possibly harmful actions;*
- *placing the burden of proof on proponents of an activity rather than on the victims or potential victims of the activity; and*
- *using democratic processes to carr out and enforce the Principle, including the public right to informed consent.*

Source: Raffensperger, C. 1999. Protecting Public Health and the Environment – Implementing the Precautionary Principle.

The special susceptibility of children

Greater Exposure

- Children are more active and, therefore, more likely to breathe in ambient air contaminants.
- Children have food preferences that expose them to the same contaminants on a regular basis.
- Children eat more foods that are potentially high in contaminants, such as fruits and vegetables.
- Children engage in more hand-to-mouth activity.
- Children live closer to the ground, both indoors and outdoors (there is a vertical gradient for some contaminants, with higher concentrations lower down).
- Children are not able to minimize their own exposure.
- Small children have a surface area to volume ratio of about three times that of an adult, therefore, they have a relatively greater uptake of contaminants by all routes.
- Children have respiratory minute volumes that are greater than adults relative to their body weight.
- Children eat more food and drink more fluid per body weight, resulting in higher rates of absorption.

Development

- At each stage of a child's development, there are unique biological processes that occur, often accompanied by changing behaviour patterns.
- Immature nervous systems, immune systems and organs such as lungs, liver and kidneys are more sensitive.
- Different adverse outcomes may occur depending on the timing of the exposure.
- There are critical growth stages when a child's body can sustain permanent damage.
- Children's stature and behavioural characteristics place them at higher risk of exposure.

Overview of the Global Environment

Environmental changes, such as climate change, ecotoxicity, resource depletion and loss of biodiversity, have an impact on human health and well-being. No one is isolated from these effects, because global life systems link us all. These changes are likely to have particular impacts on children's health.

As is well known in the field of ecology, the health and survival of a population cannot be sustained if the carrying capacity of its ecosystem is exceeded. Ecology is concerned with the healthy interaction of living creatures in a closed system. Humans interact with each other as well as with other living creatures, and these interactions can have important effects on the health of all partners in the complex, closed ecosystem of our planet.

Unlike all the other determinants of health, "environment" is not generally controlled by individuals or by mandated programs such as health care. It is a complex system in which human activities, such as chemical changes to the atmosphere, pesticide use, discharges to water sources and the genetic modification of plants and animals interfere with nature.

Harmful involuntary exposures are often caused by distant activities in which exposed individuals have not directly participated. The population demands on resources have increased dramatically in the twentieth century - the use of fossil fuels has increased more than 30-fold since the beginning of the Industrial Revolution. Consequently, global emissions of greenhouse gases, such as carbon dioxide, have also massively increased.

Measures to reduce the health impacts of these changes must involve significant reductions in consumption. The "ecological footprint" of a country is represented by the number of hectares of ecologically productive land needed to produce the resources consumed by one average person and absorb that person's wastes (Wackernagel and Rees, 1996). Lifestyle expectations influence it greatly. In 1993, the average Canadian had an ecological footprint of 7.7 hectares compared with the average person in Bangladesh who had an ecological footprint of about one half hectare.

Clearly, this is not sustainable, even in the short term, and certainly not if we continue to aim to increase our GDP and concomitant resource use at a "modest" 3.5% per annum, resulting in a doubling time of 20 years, or a 32-fold increase in one century. Reducing our ecological footprint must become the priority concern for communities and nations if we are to ensure future human and ecosystem health. Creating sustainable communities thus becomes a vital public health strategy.

Although Canadians make up a mere 0.5% of the global population, they consume a disproportionate amount of the world's energy, materials, goods, and services. Long-term, unconstrained growth will eventually cause an immense burden on human health, with which today's children will have to cope as they become adults. Thus, sustainable development or, better, sustainable health, must become a driving principle behind all environmental and economic policy globally.

Ecological Footprint

Our "ecological footprint" on the earth has become so massive that, were everyone to achieve the American standard of living to which many aspire, using our current technologies, we would need five more planets to sustain us today! If world population increases to 10 billion in the next 30 years or so – only one generation – as is currently predicted, the amount of biologically productive space will fall to 1 hectare per capita, and less than that if we continue to degrade land and sea space. Reaching the current American standard of living for everyone would then require an additional nine planets.

Source: Dr. Trevor Hancock, 1999. Personal communication.

Definitions

***Ecotoxicity** is defined as the widespread contamination of ecosystems with a multitude of persistent pollutants. For human populations, it is the life-long exposure to low-level, multiple persistent pollutants present in ecosystems.*
(Hancock, Personal communication, 1999).

***Biodiversity** (biological diversity) is defined as the variability among living organisms from all sources including, inter alia, terrestrial, marine and other ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. Biodiversity is a measure of the adaptation within natural ecosystems.*
(Federal–Provincial–Territorial Biodiversity Working Group, 1995).

***Carrying capacity** is defined as the maximum number of a given species that can be supported indefinitely by a particular habitat, allowing for seasonal and random change, without any degradation of the natural resource base that would diminish the maximum population in the future.*
(Goodland, R. and G. Ledec, 1987).

The base of this pyramid represents the proportion of the population affected by exposure to contaminants. The height of the pyramid represents the severity of the effect for an individual. Using lead as an example, most of the effects are within the bottom third and very few are at the top of the pyramid. It is important to recognize the population consequences of the subtle or minor effects. For example, a small 3-4 point negative shift in the population IQ distribution as an outcome of chronic lead exposure would result in substantial social and economic consequences and a significant burden of suffering. Neurobehavioural effects, such as increased aggression, also represent human suffering.

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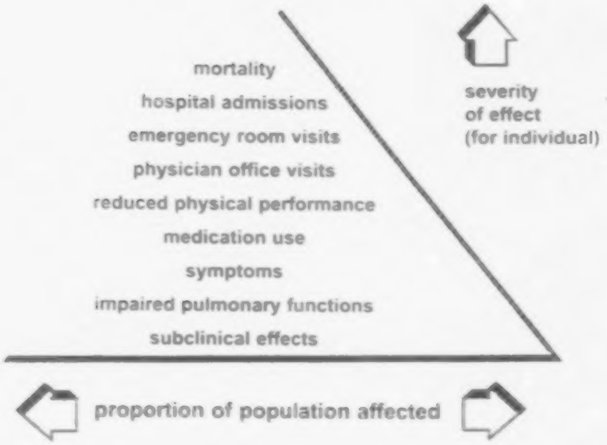
The Health Effects Pyramid


mortality
hospital admissions
emergency room visits
physician office visits
reduced physical performance
medication use
symptoms
impaired pulmonary functions
subclinical effects
severity of effect (for individual)
proportion of population affected

Source: Pollution Probe and Canadian Institute of Child Health. 1998. *The Air Children Breathe: The Effects on the Their Health.*

10

Major Environmental Health Problems

Children daily encounter many environmental hazards categorized as neurotoxins, endocrine disruptors, immunotoxins, carcinogens, and respiratory irritants. The following examples are some of the environmental health problems affecting children in North America:

- Asthma deaths among children and young people have increased during the last decade. Asthma is now the leading cause of hospital admissions for children.
- Children exposed to tobacco smoke at home have more sick and missed school days than other children.
- Many children live within a few kilometres of, and some even on, former toxic waste dumps.
- Many children are exposed to higher than average levels of ground-level ozone because they live adjacent to high density traffic corridors and interchanges.
- Children are directly affected by water pollution when they drink from or swim in rivers or lakes or, indirectly, when they receive contaminated breast milk or eat contaminated fish.

Children exposed in utero or in early life to high levels of pesticides, persistent organic pollutants, heavy metals and other chemicals may be at risk of endocrine disturbances, stunted growth, mental disability and other neurobehavioural and developmental effects.

Carbon dioxide (CO_2), the primary greenhouse gas, is produced by living organisms and by human activities, particularly through the combustion of fossil fuels. In 1996, activities by Canadians caused the release of 508 million tonnes of CO_2 into the atmosphere, accounting for 75% of the country's contribution to global warming (Last et al, 1998).

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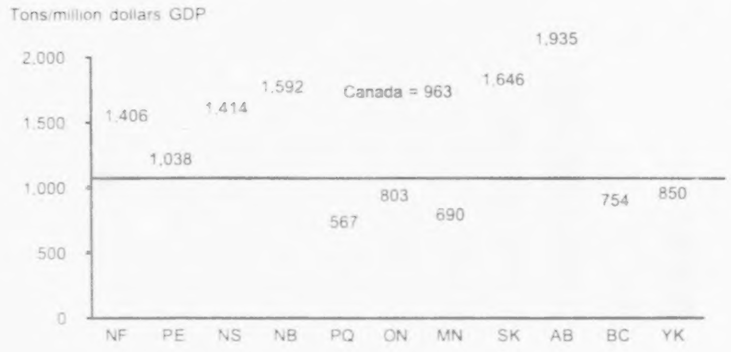
Carbon Dioxide Emissions in Relation to Provincial Economies

Canada, Provinces and Territories, 1990



GDP= Gross domestic product
Source: Statistics Canada. 1994. *Human Activity and the Environment 1994*

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Carbon Dioxide Emissions by Sector, 1993

Sector	%
Power Generation	19
Industrial	16
Passenger transportation	16
Other mobile sources	15
Other	9
Residential	9
Noncombustion sources	7
Commercial	6
Pipelines	2
Agriculture	1
Public Administration	<1

Note: Percentages do not total to 100 owing to rounding.

Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom).

One of the main sources of carbon dioxide emissions is the transportation sector. For example, our heavy reliance on the automobile, including the transportation of children to school in cars rather than buses, contributes to carbon dioxide emissions. Reducing CO_2 emissions requires a shift in individual lifestyle decisions to improve environmental and economic sustainability, as well as the attractiveness and livability of our communities.

In the past, most CO_2 emissions were absorbed by plants, soils and the oceans, collectively known as "carbon sinks". These carbon sinks act as CO_2 reservoirs, each finding a natural balance between absorbing and releasing CO_2. Today, however, the annual output of CO_2 exceeds the capacity for absorption by plants and other natural "sinks" where carbon is stored (Last et al, 1998).

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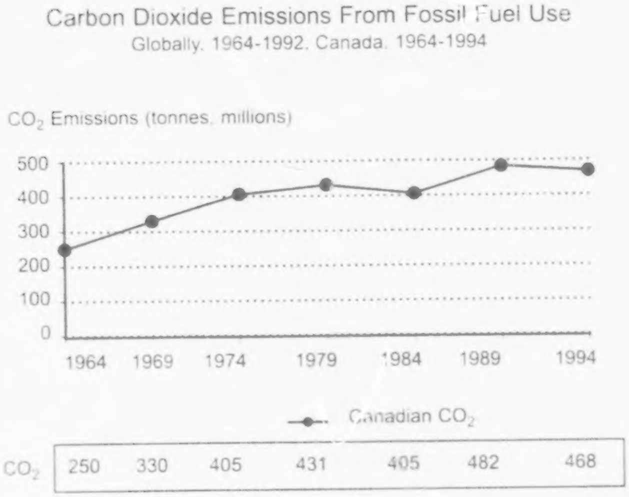

CO_2	250	330	405	431	405	482	468

Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom).

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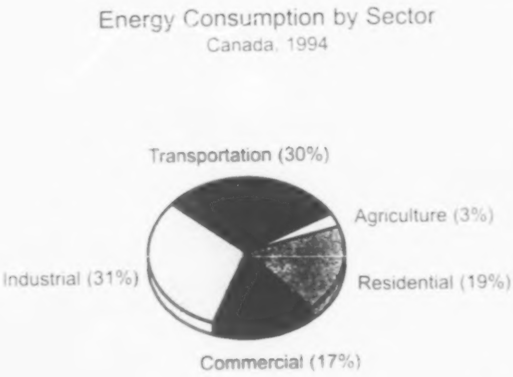

Source: Statistics Canada. 1994. Quarterly Report on Energy Supply-Demand in Canada. Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom).

On a per capita basis, Canada is the largest consumer of energy in the world and the second largest producer of greenhouse gases (Last et al, 1998). Some of the reasons for high per capita energy use in Canada include: a cold climate, long distances between population centres, and energy-intensive industries such as mineral smelting, natural gas processing, petroleum refining and pulp and paper production. Nevertheless, lifestyle factors are also important - almost 20% of energy consumption in Canada is residential. Moreover, large portions of the balance (transportation, industrial, commercial) are closely connected to Canadian lifestyles. Passenger transportation and residential activities together account for one-quarter of CO_2 emissions in Canada.

A typical house in Canada uses roughly 20 000 kWh of electricity each year. Production of 1 kilowatt-hour of electricity requires 140 litres of water for fossil fuel plants and 205 litres for nuclear power plants for condensing/cooling purposes. Hydroelectric power generation is the principal source of electricity in Canada today, accounting for approximately 62% of electricity demands (Environment Canada, 1996). The production and consumption of fuels and electricity in cities lead to local and global environmental stresses. In particular, the combustion of fuels for automobile use, home heating, and commercial enterprises at highly concentrated levels in the city leads to local air pollution from emissions of nitrogen oxides, Volatile Organic Compounds (VOCs), sulphur dioxide, and particulate matter and contributes to global warming through the release of carbon dioxide.

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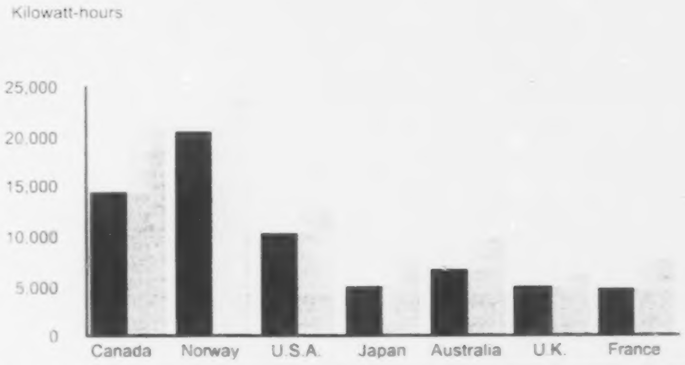
Per Capita Electricity Consumption

Canada and International, 1980 and 1996



	Canada	Norway	U.S.A.	Japan	Australia	U.K.	France
■ 1980	14,243	20,327	10,334	4,944	6,599	5,020	4,615
1996	20,904	23,830	12,977	8,074	9,820	6,249	7,508

Source: United Nations Development Program. 1999. *Human Development Report.*

10 - 8

Climate Change

"Climate" results from exchanges of energy and moisture within the earth–ocean–atmosphere system.

Certain gases, notably carbon dioxide, methane and nitrous oxide, and water vapour trap reflected solar energy resulting in the "natural greenhouse effect" which maintains the Earth's surface 33°C higher than it would otherwise be.

Since the 1800s, concentrations of atmospheric greenhouse gases have risen substantially, causing the "enhanced greenhouse effect". Carbon dioxide production has greatly exceeded the natural mechanisms for its assimilation. Hence, atmospheric concentrations have increased by 28% in the last 200 years, and scientists estimate that there will be a doubling of CO_2 in the atmosphere in about 40 years (IPCC, 1996), resulting mainly from the burning of fossil fuels.

Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom).

Overall energy loss or gain, or altered energy distribution within the system, must inevitably change the planet's climate. Small changes in atmospheric concentration of these critical gases can have serious consequences for ecosystem stability and human well-being.

Evidence supports that climate change, a human-induced phenomenon, may lead to more severe weather around the world, such as heat waves, droughts and hurricanes. It may result in the displacement of human populations as sea levels rise. It could extend the range of insects which carry infectious diseases, such as malaria and dengue fever. In addition, climate change could have an impact on agriculture and the production of food products, as well as the availability of fresh, clean water. All these potential environmental impacts could put health at risk through economic and social disruptions.

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Direct and Indirect Impacts of Climate Change

MEDIATING PROCESS	**Direct**	**HEALTH OUTCOMES**
Exposure to thermal extremes	→	Altered rates of heat- and cold-related illness and death; exacerbation of existing medical problems, especially respiratory and cardiovascular ailments
Altered frequency and/or intensity of other extreme weather events	→	Deaths, injuries, psychological disorders; damage to public infrastructure

DISTURBANCES OF ECOLOGICAL SYSTEMS	**Indirect**	
Effects on range and activity of vectors and infective parasites	→	Changes in geographic ranges and incidences of vector-borne diseases such as malaria, dengue and yellow fever, lyme disease and hantavirus
Altered local ecology of waterborne and foodborne infective agents	→	Changed incidence of diarrheal and other infectious diseases (viral, parasitic and bacterial)
Altered food (especially crop) productivity, due to changes in climate, weather events and associated pests and diseases	→	Malnutrition and hunger, and consequent impairment of child growth and development
Sea level rise, with population displacement and damage to infrastructure	→	Increased risk of infectious disease, psychological disorders
Levels and biological impacts of air pollution, including pollens and spores	→	Asthma and allergic disorders; other acute and chronic respiratory disorders and deaths
Social, economic and demographic dislocations due to effects on economy, infrastructure and resource supply	→	Wide range of public health consequences; mental health and nutritional impairment, infectious diseases, civil strife

Source: McMichael, A.J. et al. 1996. *Climate Change and Human Health*

According to present scientific estimates, a doubling of atmospheric carbon dioxide could eventually cause the planet's average surface temperature to increase by 1.5 – 4.5°C from pre-industrial times. For Canada, some computer models estimate summertime increases in various parts of the country in the range of 2 – 4°C and wintertime increases of 4 – 10°C (Boer et al., 1992; Manabe and Stouffer, 1994). However, models suggest and recent data indicate that temperature changes will be far from uniform over the globe and over Canadian territory. These changes may seem small, but they are greater than pertained to the last ice age.

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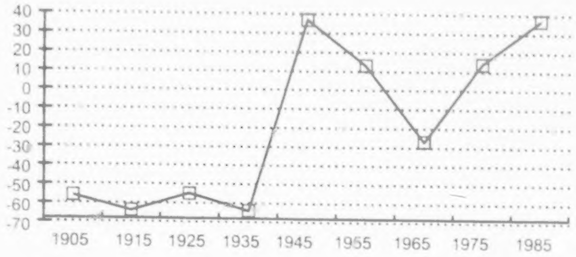
Trends in Canadian and Global Average Air Temperatures

1905-1985



1905	1915	1925	1935	1945	1955	1965	1975	1985
-0.56	-0.64	-0.55	-0.64	0.37	0.13	-0.27	0.14	0.37

Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom)

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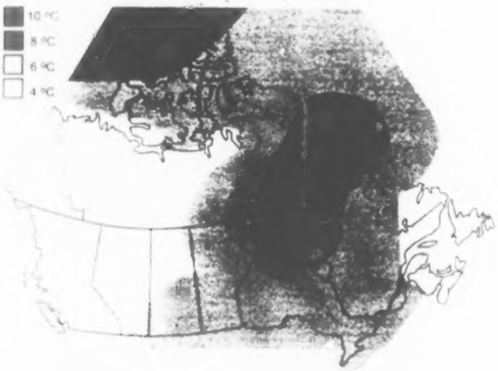
Projected Temperature Increases in Canada



Source: The Pembina Institute for Appropriate Development. In Last, J., Trouton, K., and Pengelly, D. 1998. *Taking Our Breath Away - The Health Effects of Air Pollution and Climate Change.*

The average global temperature is anticipated to rise by 1-4.5°C during this century; however, this change will not likely be uniform, with temperature increases being more dramatic in the North. Humans can, to some extent, adapt at a cultural level to this change in temperature, but natural ecosystems cannot adapt as easily, often resulting in the loss of biodiversity. The disrupted natural balance of ecosystems may have far-reaching consequences for human health and well-being.

Ecological Footprint

Based on 1993 data, the U.S. had a footprint of 10.3 hectares per capita, compared to 7.7 hectares per capita in Canada, 4.3 hectares in Japan, 5.2 hectares in the UK, and 5.9 hectares in Sweden. On the other hand, developing nations had much smaller ecological footprints – 2.5 hectares per capita in Costa Rica, 0.8 hectares in India, and 0.5 hectares in Bangladesh. Globally, however, there are 2.0 hectares of biologically productive land and sea space available per person. If 12% (0.3 hectares) is left for biodiversity protection, as recommended by the World Commission on Environment and Development, this leaves 1.7 hectares per person. Yet globally, we already use 2.3 hectares per person, on average, or 35% more than is sustainable. Source: Hancock, T. 1999. Personal Communication.

10 7

Sustainable Development

The term sustainable development was coined following a small but important international effort to understand global economic development in ecological terms (IUCN 1980), when it was recognized that, globally, the stability of the natural environment was being threatened by rapid economic growth.

Sustainable development was defined by the World Commission on Environment and Development (1987) as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

The primary goal is to achieve a reasonable (however defined) and equitably distributed level of economic well-being that can be perpetuated for many human generations. Sustainability implies a transition away from economic growth based on depletion of non-renewable resource stocks towards progress (i.e., improvement in the quality of life) based more on renewable resources over the long run (Goodland and Ledec, 1987).

10 - 13

Sustainable Health

Human health, economic health and the health of ecosystems must be mutually reinforcing goals. The concept of sustainable health extends these ecological relationships and takes proper account of the ecological foundations of health. Sustainability has important implications for lifestyle. A healthy lifestyle must now encompass a sustainable lifestyle: to live healthily, we must also live in a sustainable relationship to our environment.

Underlying sustainable health is the notion that the environment and humans provide the infrastructure without which the global economy could not survive. This infrastructure ultimately depends upon the transformation of materials and energy from nature by humans. Sustainability requires that biogeochemical cycles can continue to circulate materials into the biosphere, ecosystems can retain their capacities for the assimilation and degradation of wastes, and renewable resources such as fish populations, forests and soils can maintain their regenerative potential.

Source: Schwartz, S. 1996. *Sustainable Health: Balancing Human Health and Environmental Concerns with Economic and Political Considerations.*

In order for an economy to be "healthy", therefore, it is also necessary for both the environment and humans to be healthy.

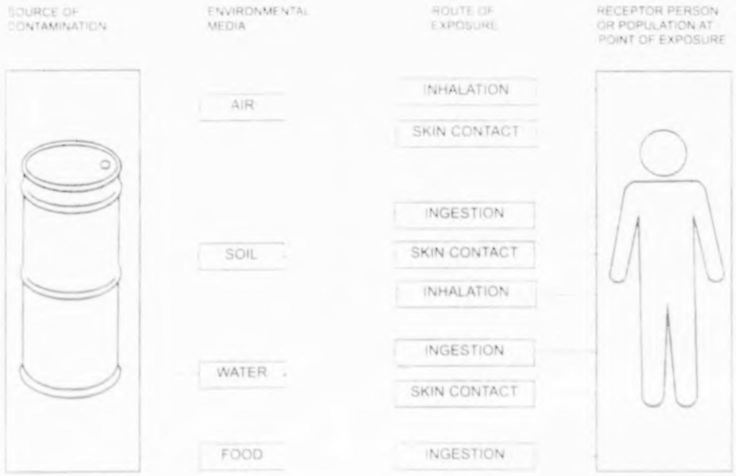
Overview of the Interactive Environment

Shaped by the global environment, the interactive environment represents places where exposures occur. Exposures can be broken down into four components: the contaminant source, the environmental media, the points and routes of exposure, and the individuals, child or adult who are the recipients.

Routes of Exposure

Children are relatively more exposed to contaminants present in the main environmental media (water, air, soil and food) and there is greater opportunity for those contaminants to enter the body via the main routes of exposure (inhalation, ingestion or dermal contact).

10


SOURCE OF CONTAMINATION
ENVIRONMENTAL MEDIA
ROUTE OF EXPOSURE
RECEPTOR PERSON OR POPULATION AT POINT OF EXPOSURE
AIR
INHALATION
SKIN CONTACT
SOIL
INGESTION
SKIN CONTACT
INHALATION
WATER
INGESTION
SKIN CONTACT
FOOD
INGESTION

Source: Health Canada. 1994. *Investigating Human Exposure to Contaminants in the Environment: A Handbook for Exposure Calculations.*

The Interactive Environment

Promotion of the health of children requires that they be protected from harmful environmental exposures in water, air, soil and food. This includes the environmental health hazards in the immediate and built environments of the child, as well as those created by changes in the global climate.

Children inhale or come into dermal contact with contaminants from both outdoor and indoor air. Young children require more air per kilogram of body weight than adults; therefore, they inhale greater amounts of air pollutants relative to their body weight. For example, air intake of a resting infant is twice that of an adult under the same conditions.

Children spend more time engaged in vigorous outdoor activities compared to adults and, as a result, the places in which they play and the level at which they breathe increase their chances of exposure. For example, children spend a large portion of their time actively playing in urban parks and school grounds, resulting in high exposures to vehicular pollutants.

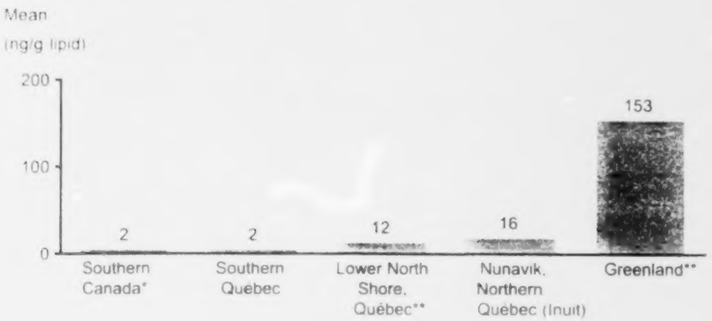
10 - 15

Air Contaminants

Ground-level ozone, sulphur dioxide and acid aerosols, oxides of nitrogen and particulates are the main outdoor air pollutants associated with adverse effects on respiration. Other toxic substances present in ambient air, such as carbon monoxide, particles of heavy metals and other organic chemicals, are of concern because of their ubiquitous distribution and ability to affect health in other ways. Outdoor air pollutants come from coal-fired electric stations, industrial emissions and fires, waste incineration, vehicle exhaust and residential and commercial space heating (Pollution Probe & CICH, 1998). Sources of these pollutants may be local or distant, resulting from long-range transport of air pollutants in the atmosphere.

10 - 16

Concentrations of Mirex in Human Milk Fat
1989-1990



* Year of sampling 1992
** Year of sampling 1991
*** Year of sampling 1993

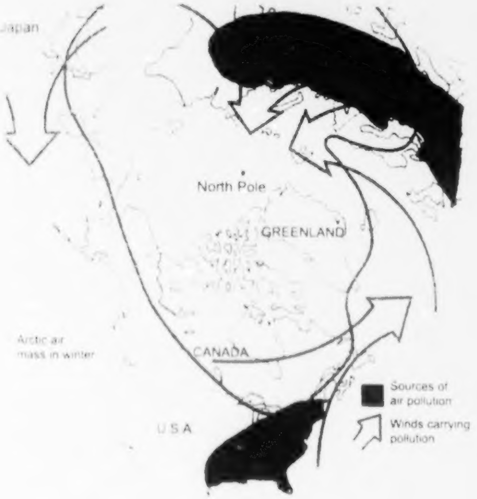
Source: Arctic Monitoring & Assessment Program. 1998. AMAP *Assessment Report: Arctic Pollution Issues*.

Some organochlorine pesticides or their products, notably DDT, dieldrin and mirex, persist in tissues and blood for weeks or months after absorption. Blood levels tend to correlate more with acute toxicity, while levels found in adipose tissue and breast milk usually reflect more long-term and historic exposure. Concentrations of mirex are still found in the breast milk and tissues of northern populations even though it has been banned in Canada for many years. It is believed to be transported to the North from countries in the South, such as Mexico.

Although chemicals such as mirex, DDT and PCBs have been banned for many years in both Canada and the U.S., concentrations of these chemicals can be found in blood and tissue samples of northern populations. Mirex and DDT were never used in the North, leading researchers to conclude that these chemicals are transported by air or water currents from one part of the world to another. In winter, prevailing winds transport contaminants from industrialized parts of the world into the Arctic. Ocean currents and sea ice may also transport pollutants. This long-range transport of contaminants from industrialized and agricultural regions is increasingly viewed as one of the most significant threats to the Arctic environment.

10 - 17

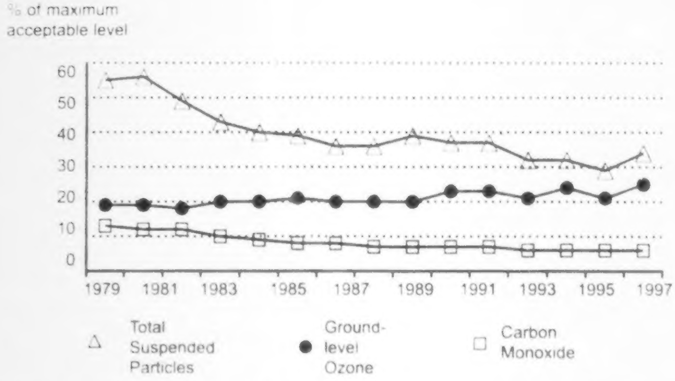
Long-Range Transport of Air Pollution



Source: Keating, M. 1997. In *Canada and the State of the Planet: the social, economic and environmental trends that are shaping our lives.*

10 - 18

Trends in Common Air Contaminants
Canada, 1979-1993



Year (19- -)	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93
△	55	56	59	43	40	39	26	36	39	37	37	32	32	29	34
●	19	19	18	20	20	21	20	20	20	23	23	21	24	21	25
☐	13	12	12	10	9	8	8	7	7	7	7	6	6	6	6

Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom)

Between 1979 and 1993, concentrations of carbon monoxide, sulphur dioxide, suspended particles and nitrogen dioxide fell by 56%, 46%, 38%, and 28%, respectively. The frequency of occurrence of high levels of these pollutants has also diminished considerably (Environment Canada, 1996). However, concentrations of ozone still rise periodically to unacceptably high levels in many localities. The presence of a variety of toxic pollutants in urban air is also of concern. These have been linked not only to respiratory diseases but also to a wide range of other health problems.

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One of the principal air quality issues in urban centres involves ground-level ozone and the numerous other constituents of smog. Ground-level ozone is created from nitrogen oxides (NOx) and volatile organic compounds (VOCs), such as gasoline vapours. In sunlight, these gases react with one another to form ozone and other oxidizing substances. Origins of these gases can be traced to automobiles, refineries, filling stations and other sources related to the use of the automobile. Many of these sources are local, but the precursor gases are also transported to the region from heavily urbanized areas in the U.S., part of the Great Lakes basin, and the American Midwest. For these reasons, the Windsor–Québec City corridor has the highest concentrations of ground-level ozone in Canada (Environment Canada, 1996).

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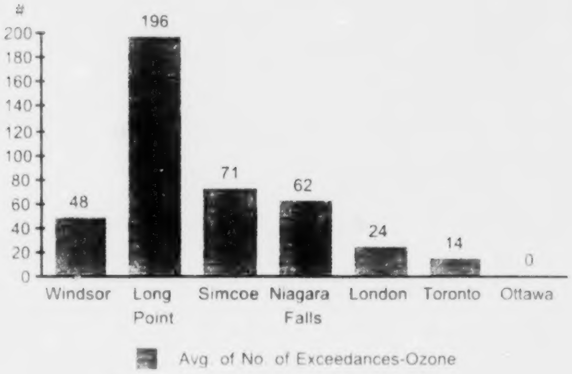
Number of Exceedances of the Acceptable Concentration of Ground-Level Ozone (82ppm) Along the Windsor-Québec City Corridor, 1994



Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom)

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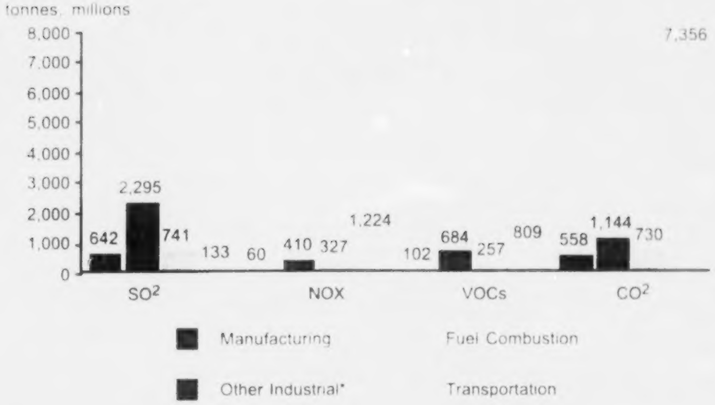
Emissions of Air Pollutants, by Sector, Canada, 1990



*"Other industrial" includes minerals and metals, pulp and paper, and energy.
Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom)

Although not the only source, the manufacturing sector is commonly linked to the following common categories of air pollutants: sulphur dioxide, nitrogen oxides, hydrocarbons, VOCs and particulates. However, emissions of the manufacturing sector are relatively low in comparison to such activities as transportation and stationary fuel combustion. For example, in 1990, manufacturing released 23% of total sulphur dioxide emissions, 4% of total nitrogen oxide emissions, and 21% of total particulate emissions (Environment Canada, 1996). More focus on the natural resources and transportation sectors for pollution prevention and emission control mitigation is necessary.

The most recognizable health effects resulting from exposure to indoor and outdoor air pollutants are respiratory symptoms, including asthma. However, there is now increasing concern over possible effects on other organ systems and functions in young children such as: the immune, urogenital, nervous, skeletal and blood systems and cognition.

10-21

Indoor Air

Indoor air quality is also of serious concern regarding effects on children's health. Indoors, levels of certain pollutants can be two to five times higher than the levels found outdoors (US EPA). In some instances, indoor pollutant concentrations can be up to 100 times higher.

Canadian children spend almost 90% of their time indoors: the most important indoor environments being the home, child-care and school. For some children, ice rinks, malls and other indoor recreational sites are also important indoor environments.

There are six main categories of indoor air pollution: respirable particles, nitrogen dioxide, volatile organic compounds, semi-volatile organic compounds, infectious and allergic agents, and carbon monoxide. Sources of these pollutants in indoor environments include: building materials such as particle board and insulation, upholstery and furnishings, appliances such as gas stoves and kerosene heaters, handicrafts, cleaning agents and second-hand smoke.

Source: Pollution Probe and Canadian Institute of Child Health. 1998. *The Air Children Breathe: The Effects on Their Health*

10-22

Water Contaminants

Children are at increased risk to the effects of contaminants in drinking water, because they drink relatively more water per unit of body weight than adults. During the first 6 months of life, for example, children drink 7 times as much fluid per pound as an adult.

Water may become contaminated from a number of sources, exposing children to a variety of contaminants. Examples include: lead leached from solder of older plumbing fixtures, trihalomethanes (THMs) that occur as a by-product of chlorine disinfection treatment of municipal water supplies, and chlorine and nitrogen compounds (such as nitrogen trichlorine – NCl3), which together form chloramines in indoor swimming pools. Rural areas obtain water from small surface water reservoirs and shallow wells that are greatly influenced by agricultural activities and may contain nitrates, dissolved organic material, arsenic, etc., which could be hazardous to health.

Direct discharge from industrial sources may affect water used in municipal supply or water used for recreational purposes. Other persistent organic chemicals, including PCBs, DDT and dioxins, may be absorbed from water sources. Chemicals from hazardous waste sites or landfills or irrigation runoff from pesticide-treated agricultural fields may leach into groundwater sources and be a source of water contamination where well water is used.

Source: Pollution Probe and Canadian Institute of Child Health. 1998. *The Air Children Breathe: The Effects on Their Health*

Lead is a potent neurotoxicant to which children are especially vulnerable. Trihalomethanes (THMs), a by-product of chlorine disinfection treatment, are associated with an increased risk of bladder and colon cancers, and of spontaneous abortion in women. Chloramines are volatile compounds that are responsible for irritation to the eyes, nose and respiratory tract.

Many Canadians are not aware that common products around the home, such as household cleaners, pharmaceuticals and paints, can be hazardous to the environment and to human health if improperly used or disposed. It has been estimated that a typical household produces about 6.8 kg of hazardous household waste each year (Environment Canada, 1996). Data on the composition of hazardous household waste vary, although there is general agreement on some of the main categories: paints represent approximately 25% to 40%; pharmaceuticals represent approximately 5%; and pesticides represent approximately 2–4% of household hazardous waste (Environment Canada, 1996). Elimination of the use of toxic products in the household may be the best solution to the hazardous household waste problem.

10

Hazardous Waste Produced

Canada and International, 1991-1994

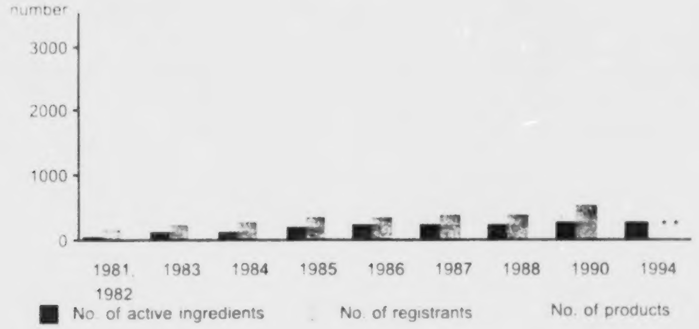
	1,000 metric tons
Canada	5.896
Norway	500
United States	213,620
Japan	N/A
Australia	426
United Kingdom	1,844
France	7,000*

*Data refer to an earlier year or period than that specified.
Source: United Nations Development Programme. 1999. *Human Development Report*.

10

Pesticide Sales in Canada

1981-1994



Year of survey	1983	1984	1985	1986	1987	1988	1989	1991	1995
Active ingredients	24	89	120	184	212	215	223	240	*250
Registrants	115	210	240	320	312	336	355	498	N/A
Products	780	1,680	2,150	2,600	2,350	2,605	2,790	3,397	N/A

*N/A
Note: Each survey was conducted one year after the data findings. The 1983 sales figures were conducted in 1984.
Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom).

Pesticides present potential hazards to human health. They are widely used in agriculture in Canada, with Prince Edward Island, New Brunswick and Ontario applying substantially more than the other provinces or territories. Pesticides enter water through run-off from fields, and can be transported long distances through the air. They can be tracked into the house on shoes and clothing and deposited on absorbent surfaces in the home.

Soil consumption is common, especially if a child is iron deficient, and may lead to the ingestion of contaminants such as heavy metals, pesticides and other pollutants.

Soil Contaminants

Soil and sediments may harbour a variety of chemical contaminants to which children may become exposed. Food grown in contaminated soil may also be a point of transfer of chemical substances from soil to humans. Exposure to contaminants in soil may come from direct dermal contact, ingestion of soil or inhalation of soil dust carried in air. Such dust particles can also settle on surfaces and products, providing another route for ingested chemicals.

Reclaimed industrial land is often used for subsidized housing projects, potentially exposing children of lower income families to high levels of contaminated soil.

Food Contaminants

Because of the nature of their diets and food preferences and the relatively greater amount of food eaten per unit body weight, children are particularly vulnerable to contaminants in food. Children aged 1 through 5 years, eat 3 to 4 times more food per pound of body weight than the average adult. Children's diets are typically higher in foods which may carry contaminants, and include breast milk, fruits and vegetables.

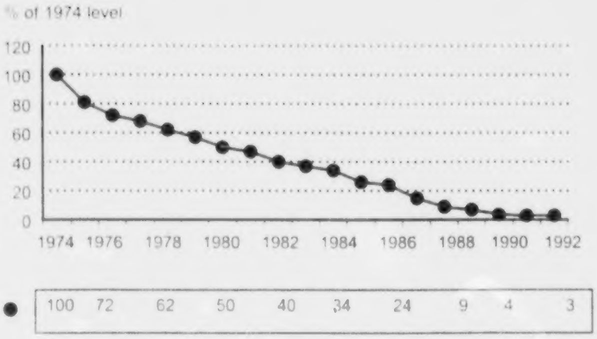
Agricultural products including those manufactured from these items, may carry residues from pesticide use. Baby food has been found to have trace measures of several different pesticides. Packaging may also transfer contaminants to food, for example, lead formerly used to seal canned goods. In addition, chemicals used in manufacturing some plastic containers may readily leach into some foods when the container is heated.

Food, including that grown in home gardens, may transmit chemicals and heavy metals to humans through contaminated soil or water. Fish and wildlife, especially those higher up the food chain, may be contaminated by water, sediments or from lower organisms in the food chain.

In 1984, Canadian statistics showed that the average blood lead levels in children were measured at 11.9 ug/dL. By 1992, these levels had decreased to 3.5 ug/dL. Although it is clear that Canada has reduced blood lead levels considerably, these levels are still higher than those in the US, Sweden and Finland. Children are particularly vulnerable to the effects of lead exposure. Lead can damage a child's developing brain, kidneys and reproductive system; even low levels are reported to be associated with reduced attention spans, learning disabilities, hyperactivity, behavioural problems, impaired growth and hearing loss. Reductions to date are significant; however, given that no clearly defined safe threshold has been established, efforts in this area must persist.

10 7

National Trend in Ambient Concentrations of Lead
Canada. 1974-1992



Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom)

10-28

Percentage Total Intake of Foods with the Highest Heavy Metal Contributions in Women's Diets
Baffin Island. 1995

% Total intake	Mercury	Cadmium	Lead
Ringed seal meat	40.7	71.9	23.5
Narwhal muktuk	21.5	1.7	5.4
Arctic char flesh	2.7	1.4	18.4
Caribou meat	7.2	3.4	10
Ringed seal liver	11.9	5	0.2
Walrus meat	2.3	3.1	5.6
Kelp	0.4	5.8	3.8

Source: Indian and Northern Affairs Canada. 1997. *Canadian Arctic Contaminants Assessment Report.*

Bioaccumulation is a general term describing a process by which chemical substances are ingested and retained by organisms, either from the environment directly or through consumption of food containing the chemicals (Environment Canada, 1996).

The greatest exposure to bioaccumulative, persistent, toxic contaminants comes from food. The consumption of country foods increases the risk of exposure to heavy metals, such as mercury, cadmium and lead, and to fat-soluble, persistent organic pollutants. Marine mammals have the highest concentrations of these heavy metals because they are at the top of the food chain (biomagnification) and these contaminants bioaccumulate in their tissue. Marine mammals are important food sources for northern populations, especially the Inuit.

Some toxic substances can enter a food chain and be transferred through it (bioconcentration). Many toxic compounds accumulate in the fat or certain organs of animals and, as contaminated organisms are eaten by others, the toxic substances are transferred up the levels in the food chain and become more concentrated, sometimes to harmful levels (biomagnification). The species at the top level of the food chain, including humans, are usually subjected to higher concentrations of toxic substances than those at the bottom. For example, fish, mammals and predatory birds may have concentrations of chemicals 10 to 100 million times the concentrations found in the water itself.

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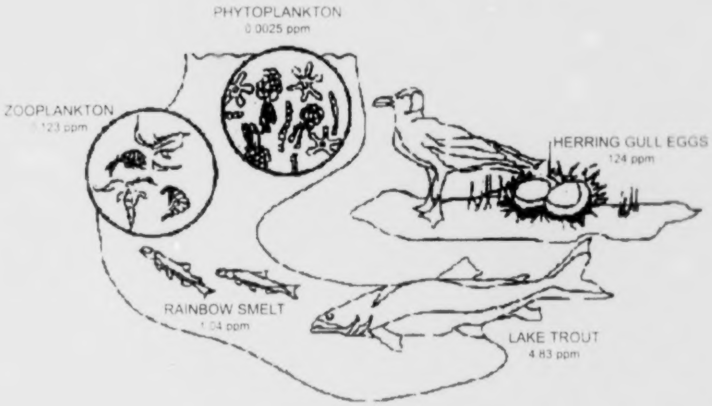
Bioaccumulation and Biomagnification

(ppm - parts per million)



Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom).

1 0

Blood Mercury Levels

Canada and Various Regions, Various Years

	Year collected	N	Mean mg/L	Comments
Canada	**1970-1995**	**38,571**	**14**	**Blood, cord blood, hair**
Nunavik	1993-1995	299	12	Cord blood
Nunavut (Inuit)	**1994-1995**	**62**	**6**	**Cord blood**
Western NWT (Dene)	1994-1995	47	2	Cord blood
NWT (non-indigenous)	1994-95	121	2	Cord blood
Ontario (fisheaters)	1992-1993	176	3	Whole blood

Source: Arctic Monitoring & Assessment Program. 1998. AMAP. *Assessment Report: Arctic Pollution Issues.*

Methylmercury is naturally present in water, and additional mercury is introduced into the environment through human activity. This heavy metal accumulates in the food chain. In particular, mercury bioaccumulates in fish and marine mammals. When humans eat mercury-contaminated food, it accumulates in their tissues. High levels of mercury have been identified in certain Aboriginal populations that consume large quantities of fish and marine mammals. The subtle health implications of chronic exposure to mercury over the life span are uncertain, but there are sufficient data for concern. Specifically, there is concern that, because mercury bioaccumulates, even at low levels, it can have a negative impact on neurological development in the fetus and young infant, and on subsequent brain functioning.

Manufactured products are particularly important, both as exposure routes and as direct contamination sources. Because children are prone to put objects in their mouths, and because of their small stature and crawling behaviour, they come into direct contact with many products containing toxins that can be ingested or dermally absorbed.

10

Toys and Other Consumer Products

Children face potential hazards from exposure to toxic elements used in the manufacture of different products intended for their use, particularly toys.

Toys may also be media for transfer of contaminants from other sources. Pesticide residues have been found on toys long after initial application while furnishings, draperies, carpets, pillows and other absorbent surfaces in the home may become reservoirs for ambient chemicals. Materials used in the manufacturing of these items may also be toxic.

Building materials can be hazardous to children, especially those used in older buildings, such as asbestos, lead-based paints, formaldehyde present in particle board, and foam insulation. Asbestos is a powerful carcinogen and lead is a potent neurotoxicant. Foam insulation can cause breathing difficulties, headache, dizziness and nausea at low exposures.

Chemical agents used in homes may also be direct toxicants for children: household cleaning agents, make-up, shampoo, antibacterial soaps, paints and solvents have been associated with a number of serious health problems.

10 - 12

Contaminants in Breast Milk

Breast milk is the most important (and often the only) source of nutrition for the infant during the first few months of life. Chemicals in breast milk mainly come from items in the mother's diet, such as meat, fish and dairy products. However, the woman's lifetime exposure, much more than her post-natal dietary intake of contaminants, is the greatest determinant of their levels in breast milk. Nursing babies are at the top of the food chain. Therefore, they may receive close to an adult level dose when they are breastfed.

The risks of exposure via breast milk are difficult to define mainly because of pre-natal (via placenta) versus post-natal (via breast milk) exposure. However, while exposure via breast milk is considerable, it is believed that the much smaller amount transferred prenatally is of greater significance due to the special vulnerability of the developing fetus to chemicals.

It has been widely asserted that the benefits of breastfeeding for both infant and mother far outweigh the risks from exposure to breast milk contaminants; nevertheless, more research is necessary.

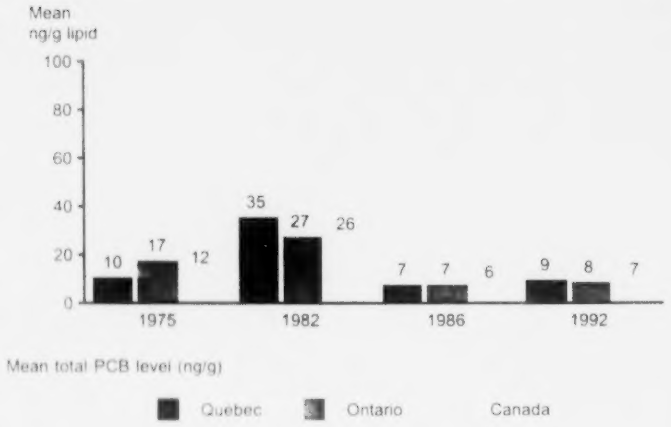
Source: Jensen, A.A. and Slorach, S.A. (eds) 1991. *Chemical Contaminants in Human Milk*

The mobilization of adipose tissue during lactation causes the simultaneous release of fat-soluble chemicals – up to 30 % of lifetime accumulation – which then enter breast milk. Globally, a variety of chemical contaminants have been identified in human milk samples in varying amounts. These include heavy metals such as lead, mercury and cadmium, volatile organic compounds, aromatic amines, and several from the organochlorine group of chemicals such as PCBs, DDT and metabolites, other chlorinated pesticides, dioxins and furans.

The manufacture and import of PCBs was banned in North America in 1977. However, it has been estimated that only 4% of the PCBs produced worldwide have been destroyed, one third have been lost to the environment, and the rest are still in use or in landfills. PCBs still enter the environment from a variety of sources: poorly maintained toxic-waste sites, illegal or improper dumping of PCB wastes such as transformer fluids, leaks from electrical transformers containing PCBs, disposal of consumer products containing PCBs in municipal landfills rather than landfills designated for hazardous wastes, and accidental releases. PCBs can travel great distances in air and have contaminated remote regions far from urban centres, such as the northern regions of Canada (Environment Canada, 1996).

10 - 33

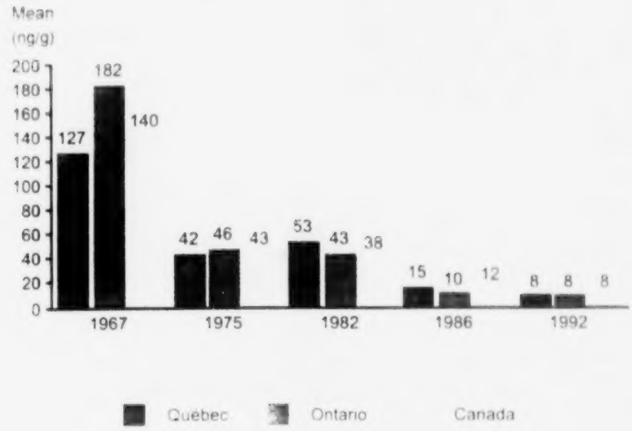
Trends in Levels of PCBs in Human Breast Milk
Québec, Ontario, Canada, 1975-1992



Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom)

10 - 34

Trends in Levels of DDT in Human Breast Milk
Québec, Ontario, Canada, 1967-1992



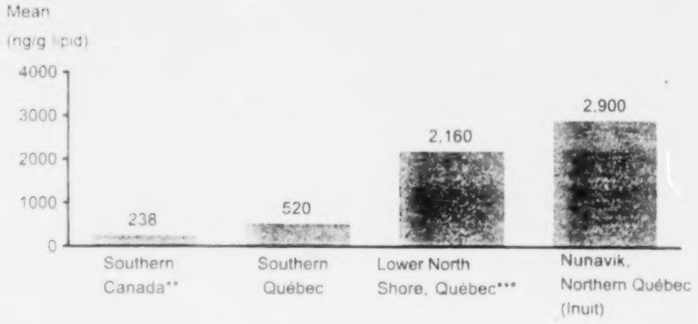
Source: Environment Canada. 1996. *Conserving Canada's Natural Legacy* (CDRom)

Organochlorine pesticides, such as DDT, persist in the environment and accumulate in the fat of living creatures. As a result, though it was banned in Canada and the United States in the 1970s, researchers still find DDT and its byproduct, DDE, in human breast milk. Although the ban has resulted in the decrease in levels of DDT, it is still used in many countries around the world and has been found in high concentrations in the North as a result of long-range air deposition. DDT is a known human carcinogen and endocrine disruptor.

Infants from Nunavik in Northern Québec have had the highest known exposure to PCBs via breast milk of any global population. Breast milk samples from Nunavik mothers exhibited PCB levels approximately four times higher than the levels for women in Southern Québec. Long-term studies of children whose mothers had measurable levels of PCBs in breast milk have found effects on neuromuscular development in the first two years, with development progressing normally after that. Others have observed cognitive and behavioural problems but indicated that prolonged breast-feeding was linked to improved memory and verbal scale test performance. Health studies of breast-fed Inuit infants have indicated an increased incidence of ear infections and "modest" compromise to immune function.

10

Concentrations of PCBs* in Human Milk Fat
1989-1990



*PCB= Polychlorinated Biphenlys
**Year of sampling 1992.
*** Year of sampling 1991.
Note PCBs as Aroclor 1260, except for Southern Canada, where PCB is the sum of PCB congeners.

Source Arctic Monitoring & Assessment Program 1998 AMAP *Assessment Report Arctic Pollution Issues*

10 - 56

Ratio of the Concentration of Contaminants in Inuit Mothers' Milk from Nunavik Compared with Non-Aboriginal Mothers' Milk from Southern Québec
1989-1990

Contaminant	Ratio (North/South)
DDE	6
Dioxins/Furans	2
Dioxins/Furans/PCB	2
Mirex	10
Chlordane [1]	10
PCB (as Aroclor 1260)	6
HCB	5

[1] Comparison between Nunavik (1989/1990) and southern Canada.
Source Indian and Northern Affairs Canada 1997. *Canadian Arctic Contaminants Assessment Report*

Arctic regions, such as those of Nunavut and Nunavik, are at particular risk as contaminants, transported and deposited by air and water currents, accumulate in the cold environment and breakdown at a generally greatly reduced rate, remaining in the environment longer and bioaccumulating in the food chain. Consequently, high levels of specific contaminants, such as PCBs and DDT, have been found in the breast milk of Inuit women in the North, though the health risks posed by these contaminants on Inuit children have not yet been established.

Women make their lifetime supply of ova while still a fetus. The human female is born with about 2 million ova in immature form. Only several hundred thousand of these actually last into puberty and, of these, roughly only about 400 will ripen and be released by the ovaries during a woman's reproductive years.

10

Preconception

Exposures of parents before they reproduce are an important, yet less direct route of exposure to their offspring. When parents are exposed to environmental contaminants, there is the possibility of damage occurring to their cellular DNA. Genetic mutations will only be inherited by offspring if they occur in the gametes that eventually combine to form the genetic material of the offspring.

Gametes are most susceptible when they are actively dividing. In the case of the male, sperm are normally produced continually from puberty throughout adult life; therefore, there is the potential for genotoxic effects to occur if the father is exposed to contaminants from childhood onward. While mature sperm are, at most, a few weeks old when they fertilize an ovum, their precursors exist throughout life and genetic alterations are, therefore, possible over long periods. The exact nature of these effects in the father is not well understood.

In contrast, women make their lifetime supply of eggs while still a fetus (O'Rahilly R & Muller F, 1998), and the eggs are only active, and therefore genetically susceptible, during this time. It is, therefore, when the mother is a fetus, (i.e. exposures when the grandmother was pregnant) that exposures could potentially result in her offspring inheriting defective genetic material (Bearer C, 1995).

Exposure to toxicants may have an impact on the ability of prospective parents to conceive and on the development of their future children. Many factors can cause damage to sperm and oocytes, thereby impeding the success of reproduction. This damage can occur at any time prior to and right up to conception.

10 - 38

Prenatal

A mother's body is the first environment for an individual. The fetus is not protected from environmental toxicants in the uterus as was previously believed. The fetus can be exposed to certain contaminants because many can cross the placenta, potentially affecting pre-natal development.

The source of fetal exposure to contaminants is, in fact, the mother and her current and past exposures. Substances that are ingested, absorbed or inhaled by the mother during pregnancy, and that stay in the bloodstream, may travel across the placenta to the fetus. Compounds that the mother was exposed to during her lifetime and that become stored in her body may also be released from maternal tissues due to physiological changes that occur during pregnancy.

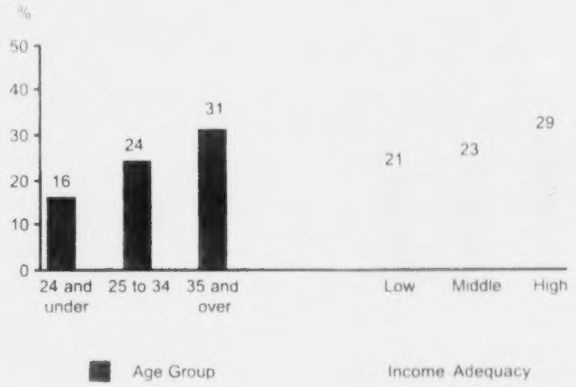
The main concern for placental transfer of contaminants to the fetus is that it occurs at a time when there are very sensitive developmental processes taking place in all organs that can easily be altered, resulting in the potential for adverse effects.

Chemicals and heavy metals may find their way into the bloodstream and can enter the fetus through the placenta. High-risk maternal behaviours, such as smoking, drinking and using drugs, can expose the developing fetus to harmful contaminants. Smoking during pregnancy continues to be common in Canada.

According to the National Population Health Survey, women in their thirties were more likely than women in their twenties to report alcohol consumption during pregnancy. Women with higher incomes were also more likely than women with lower incomes to report alcohol consumption during pregnancy. The recognition that drinking alcohol during pregnancy could negatively impact the developing fetus, leading to fetal alcohol syndrome or fetal alcohol effects, stimulated concern about the vulnerability of the fetus to this and other environmental contaminants.

10

Percentage of Women Who Drank* During Pregnancy, by Age Group and Income Adequacy
Canada Excluding the Territories, 1994-95

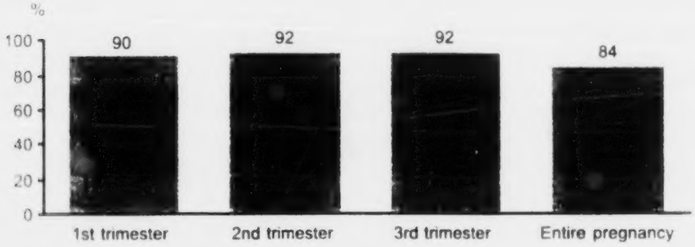


* Drank was defined as consumption of alcohol, regardless of amount.
Note: using NPHS data 1994-95.

Source: Health Canada. 1999. Alcohol and Pregnancy. *Canadian Perinatal Surveillance System.*

10

Prevalance of Smoking During Pregnancy Among Smokers
Canada, 1996



Source: Connor, S. et al. 1998. *Do Alcohol and Tobacco Harm Your Child?* Workshop paper for "Investing in Children: A National Research Conference 1998."

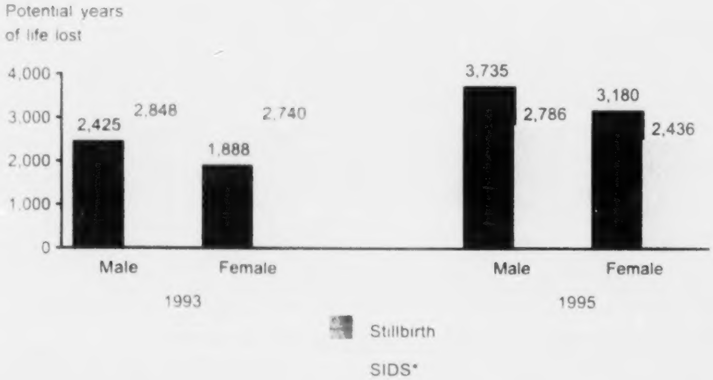
Smoking tobacco during pregnancy exposes the fetus to a wide range of environmental contaminants. According to the National Population Health Survey, the majority of women who were smokers continued smoking during their pregnancy. Given the highly addictive nature of tobacco, effective prevention, cessation and reduction programs, offering women much needed support, are essential.

"Potential years of life lost" is a term used to describe the difference between an individual's actual life span and the life expectancy for that individual's age cohort. Looking at infant deaths due to SIDS and stillbirth alone, a significant number of potential years of life lost are attributed to the use of tobacco.

10-4.1

Potential Years of Life Lost Attributed to Tobacco, by Cause and Gender

Canada, 1993 and 1995



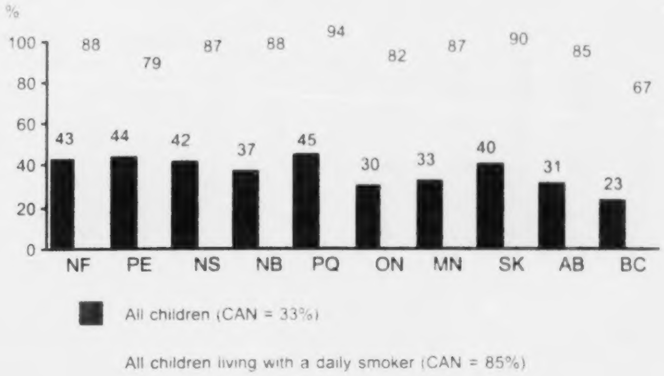
*Sudden Infant Death Syndrome

Source: Canadian Centre on Substance Abuse and Centre for Addiction and Mental Health. 1999. *Canadian Profile Alcohol, Tobacco and Other Drugs 1999.*

10-4.2

Children Birth to 11 Years of Age Regularly Exposed to Environmental Tobacco Smoke at Home

Canada and Provinces, 1996-1997



Source: Based on Physicians for a Smoke-Free Canada. 1999. *Smoking in Canadian Homes: Are Children at Risk?*

The majority of children living with a daily smoker are regularly exposed to environmental tobacco smoke. Approximately one in three children under the age of 12 in Canada is regularly exposed to environmental tobacco smoke.

One way of measuring prenatal exposure to contaminants, the exposure that occurs through placental transfer, is to examine fetal cord blood. Cord blood is considered the best available indicator of the transfer of contaminants from the mother to the developing fetus. Cord blood studies clearly indicate that a wide range of contaminants cross the placenta. The health and development implications of these low-level exposures are uncertain, but there is sufficient evidence to merit concern because of the immaturity of cell lines and the potential vulnerability of developing organs (National Research Council, 1993).

10-43

Proportion of Inuit Newborns with Various Contaminants in the Cord Blood

Arctic Canada, 1993-1995

	Population	N	Proportion detected (%)
DDE	Nunavik	273	100
	NWT	62	100
DDT	Nunavik	273	76
	NWT	62	5
PCBs*	Nunavik	273	100
	NWT	62	100

* PCB as Aroclor 1260

Source: Indian and Northern Affairs Canada. 1997. *Canadian Arctic Contaminants Assessment Report.*

10-44

Proportion of Inuit Women Whose Daily Intake of Contaminants Exceeds the Tolerable Daily Intake

Baffin Island and Nunavik, 1987-1988, 1992

%	CBZ	CHL	DIE	TOX	PCB	Hg
Baffin Island*	9	48	16	40	16	29
Nunavik**	6	75	N/A	N/A	4	37

Note: Chemicals reading left to right are: chlorobenzenes, chlordane, dieldrin, taxaphene, polychlorinated bipheneis and mercury

*Dietary interview, 1987-1988

**Dietary interview, 1992

Source: Indian and Northern Affairs Canada. 1997. *Canadian Arctic Contaminants Assessment Report.*

Food is the most common route of exposure. For a number of persistent contaminants, the dietary intake of many Inuit women exceeds the tolerable daily intake (TDI). Although these exposures are not associated with death, hospitalization or any obvious disability or illness, these contaminants may interfere with reproductive health and the health of their rapidly developing offspring. From the time of conception, fetal development is strongly regulated by hormonal action. Hormones such as thyroid, insulin and estrogen strongly influence brain development and lung maturation. Contaminants, such as pesticides and PCBs, may disrupt normal hormone function with potentially dangerous results.

The poor housing and poor nutrition of children from low income households worsen their exposures and vulnerability to contaminants like lead, pesticides and vehicle emissions. Poor nutrition in the young is a factor that is implicated in altering the biological processes by which the body deals with lead, among many other contaminants. In addition, apartment dwellers in poorer areas are more likely to be exposed to certain pesticides (e.g., those applied to control cockroach infestations). Low income neighbourhoods are also more often in closest proximity to sources of environmental contaminants such as landfills, urban industry and major roadways.

10-45

Environmental Justice: Socio-economic Factors

Some populations of children are clearly at increased risk from high levels of contaminants in the environments where they grow, raising issues of environmental justice. Children living in poverty and in racial or ethnic communities are at disproportionate risk for exposure to environmental hazards. Children who live in poverty tend to live "downhill, downwind and downstream".

In Aboriginal and northern communities, country foods (e.g., seal, whale, caribou, and Arctic char) are considered essential to well-being and food security. In terms of physical health, country foods are associated with less obesity and dental caries, better resistance to infection and less diabetes. Country foods also contribute to cultural identity and civic cohesiveness. However, fish, marine mammals, birds and eggs are all potential sources of high concentrations of contaminants. Other groups, such as sport fishermen and immigrants may also be likely to utilize these food sources. In both cases, children may be exposed prenatally and through their diet.

10-46

Equity

There are dramatic inequalities in the health of children in Canada. For example, in 1991, the infant mortality rate in Canada as a whole was 6.3 deaths per thousand live births in the first year of life, but it ranged from 4.5 per thousand in the wealthiest neighbourhoods to 7.5 per thousand in the poorest neighbourhoods, and almost 11 per thousand in Status Indian communities (Report on the Health of Canadians, 1996). This report also points out that, in 1994, 1 in 5 children in Canada lived in poverty, rising to 3 in 5 children for female-headed lone-parent families.

In Canada, it is important to recognize that some of the worst housing conditions are found in native communities, where there are also often inadequate water supply and sewage treatment facilities. It is factors such as these that contribute significantly to poor health status among children of Aboriginal people. Addressing inequalities in the environment of Aboriginal children – and Aboriginal people generally – has to be among our highest priorities as a country.

Source: Hancock, T. 1996. Excerpt from a workshop on children's health and the environment. Ontario Public Health Association.

Not only do children who live in poverty live in the most polluted parts of the community, they also live in the poorest quality and most dangerous housing and they have parents who may work in the dirtiest and most hazardous jobs.

Low temperatures reduce the rate at which pesticides break down in the environment, increasing the risk of exposure to northern populations. Some pesticides, depending on the dose, can cause a range of effects on human health, including cancer, acute and chronic injury to the nervous system, lung damage, reproductive dysfunction and possibly dysfunction of the endocrine and immune systems (National Research Council, 1993).

10 - 47

Half Life Days of Selected Pesticides Compared at High and Low Temperature

Arctic Canada, 1995

Pesticide	High temperature	Low temperature
Atrazine	200	NOD*
Azinphos-methyl	26	NOD*
Diazinon	14	45
Dimethoate	36	219
Fenitrothion	34	224

* NOD = no observed degradation after sixty days.

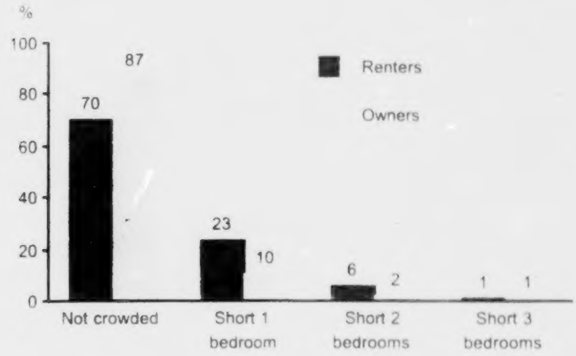
Note: Measured at 22ºC and 6ºC

Source: Indian and Northern Affairs Canada. 1997. *Canadian Arctic Contaminants Assessment Report.*

10 - 48

Depth of Crowding, by Homeowner/rental, Families With Children Under the Age of 18 Living in Housing Need

Canada, 1996

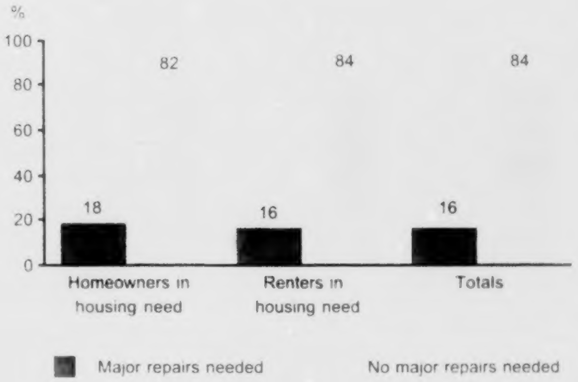


Source: Special runs for CICH conducted by Canada Mortgage and Housing Corporation. John Engeland, Cynthia Piche, 1999.

Crowding contributes the spread of viral and bacterial infection. This can mean more frequent episodes of illness for children and youth living in crowded homes. The potential effect of crowding on the learning abilities of children and youth is also serious. A lack of space, often coupled with a lack of quiet, is associated with a drop in school performance (OPHA, 1998).

Children living in houses that are in need of repair are at an increased risk of injury. For infants, preschoolers and elementary school aged children, the home is the most common location for injury. The supervision of an adult is an important safety strategy; however, safety prevention measures that focus on ensuring a safe physical environment are essential. Low income and housing need are not the only reasons that families live in homes in need of repair. However, low income families are less likely to do so by choice (e.g. during renovations) and more likely to remain in substandard housing for longer periods of time.

Proportion of Families with Children Under 18 Years, Living in Housing Need, by Owner/Rental and Need for Repair
Canada, 1996



Source: Special runs for CICH conducted by Canadian Mortgage and Housing and Corportion. John Engeland, Cynthia Piché, 1999.

Overview of the Special Susceptibility of Children

The developing body systems of the child, particularly tissues and organs, are more sensitive to environmental toxicants. Tissues that are under development are more susceptible to toxic effects because they rely on chemical messengers for growth. Organ development begins during early fetal life and continues into adolescence.

As summarized previously, on average, children receive greater exposures than adults because they eat more food, drink more water, and breathe more air per unit of body weight than adults. Furthermore, depending on their age, children's ability to metabolize, detoxify and excrete many toxicants is different from that of adults.

In addition to developmental and physiological differences, children's behavioural tendencies often place them at higher risk to certain environmental hazards than adults. The exposure pathways of a child differ from those of an adult; their exploratory behaviour, frequent hand-to-mouth activity, and position closer to the ground, all result in greater contact with sources of contamination.

Based on current life expectancies infants and young children should live for 75 to 80 years, or three generations. Since children have more future years than most adults, they have more time to manifest diseases subsequent to their multiple environmental exposures.

Children, especially the fetus and young child, are a unique segment of our population who encounter and process environmental contaminants differently from adults. Preservation of safe environments for all children is not only the responsibility of parents, but also of educators, communities, industry and, above all, governments and policy makers.

Synergism

Whereas children's chronic exposures entail mixtures of chemicals, studies have usually been of isolated exposures. The health consequences of multiple exposures are unlikely to be revealed by such studies. Studies of various combinations of pesticides, fertilizers and other common ground water pollutants could reveal significant health risks.

***Aggregate Exposure** – exposure to the same chemical from multiple sources.*

***Cumulative Exposure** – exposure to several chemicals with similar modes of action.*

Exposures at critical periods of development - notably during embryogenesis, fetal life and infancy - can result in irreversible damage to growing nervous systems and affect emerging behaviour patterns, cause immune dysfunction, and have serious reproductive effects. If a toxic exposure occurs during critical growth stages, the system affected can sustain permanent damage. What the body does not metabolize or excrete, is stored in fat, tissue and bone. In some cases, prolonged exposure may be necessary to induce adverse effects; in others, a single exposure at a vulnerable developmental stage may be sufficient.

While the average age of death for those born before 1930 is still increasing, it will take another 30 to 50 years before the average age of death of those born in the 1950s or subsequently will be determined.

10-50

Life Expectancy

Life expectancy is not predictive. It is a somewhat sophisticated and complex way of measuring average age of death that does not forecast how long we may live. It tells us that if everyone born today had the same average life experience as all those dying this year, they could expect on average to live as long. Life expectancy tells us a lot about those who are dying, but tells us nothing about the living.

Since the 1950s, people have been born with a body burden of persistent organic pollutants, such as DDT and PCBs, and have continued to be exposed throughout their lives to a multitude of toxic chemicals at very low levels. We are approximately 40 years into a major experiment in which an entire cohort has been exposed to "ecotoxicity" throughout life.

Source: Hancock, T. 1999. Personal Communication.

10-51

Estimated PCP* Intake (NG/KG bodyweight/day)**

Canada, 1992

Environmental media	Infants	Toddlers	Children	Adults
Air	11	13	14	10
Drinking water	0	0	0	0
Soil/dust	2	3	0	0
Food	99	105	50	28
Total PCP	112	121	65	37

*PCP = Pentachlorophenol

**= numbers have been rounded

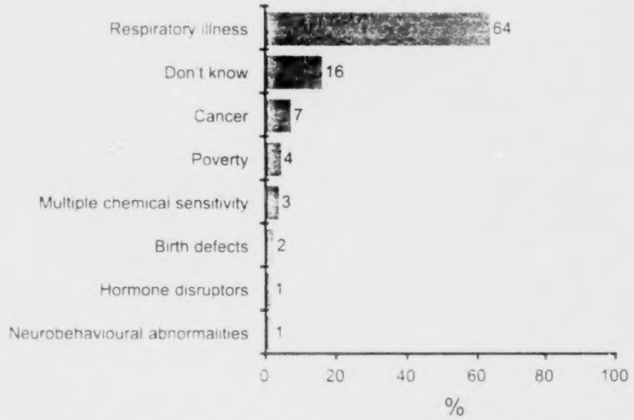
Source: Coad, S. and Newhook, K.C. 1992. PCP Exposure for the Canadian General Population: A Multimedia Analysis. *Journal of Exposure Analysis and Environmental Epidemiology.*

Pentachlorophenol (PCP) is a commonly used wood preservative found in pressure treated wood products. Pressure treated wood is used for building fences, decks, play structures, house foundations, barns, storage facilities, docks and other durable wood structures. PCP is used to help protect lumber from insects and fungi; however, it does not bind well with wood making it likely to evaporate or migrate. PCP is virtually ubiquitous in the environment, and measurable residues of PCP are found in most people. Exposure to PCP can cause skin or respiratory irritation, cold- and flu-like symptoms ranging from nausea, headache and allergies, and has been associated with immune system dysfunction and some forms of cancer.

10 - 2

The Perceived Most Serious Health Issues Facing Children

Canada, 1996



Note: respondents were from health groups, community groups, non-governmental organizations, government, education and business sectors.

Source: Canadian Institute of Child Health. 1998. *National Survey of Communities: Environmental contaminants and the implications for child health. Final Report.*

A variety of contaminants, in both indoor and outdoor air, are associated with respiratory problems in children. Adverse respiratory health effects range from subtle, non-specific symptoms to more and more serious ones, such as increased cough and wheeze, increased use of asthma medication and rates of asthma attacks, increased school absenteeism, increased physician and hospital respiratory visits, permanent reduction in lung capacity and increased risk for Sudden Infant Death Syndrome (SIDS). Because of its obvious clinical significance, childhood asthma is currently the health outcome of greatest concern. Asthma is now the most frequent chronic childhood illness in Canada and the United States (Raizenne M. et al, 1998).

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10 - 53

Neurobehavioural Effects

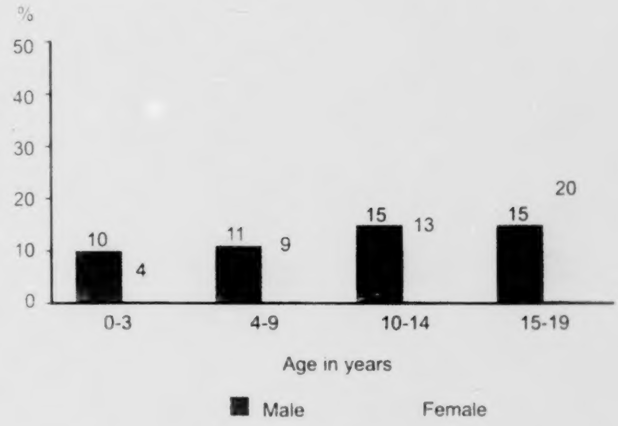
Attention Deficit Hyperactivity Disorder (ADHD) and learning disabilities affect a large proportion of children. Behavioural teratogens, such as alcohol, lead, PCBs and methylmercury, are known to compromise brain development and function in children exposed in utero or in early life. Lower IQs, problems in attention and a number of other neuropsychological effects are findings in such studies. Nevertheless, the causes of neurobehavioral disorders are unknown, and most substances to which children are exposed regularly, such as food additives and pesticides, have not been evaluated for their potential to affect brain development. More research into the possible association between exposure to environmental contaminants and neurobehavioural effects such as learning disabilities is needed.

Allergies can develop at any age, but they develop most frequently among children and adolescents. About thirty percent of the population suffers from allergies, with allergies of the respiratory tract ranking as the most common. Food allergies, which sometimes produce intense and life-threatening reactions, remain less frequent (Guidotti & Gosselin, 1999). Limiting exposure to dietary and airborne allergens, such as dust mites, molds and pollens, during infancy can protect high-risk children from developing rhinitis, food allergies and eczema. Although heredity predisposes people to allergies, changes in the immune system from exposure to certain contaminants may also be a risk factor.

10 - 54

Proportion of Children Who Have Allergies, by Age and Gender

Canada, 1996-1997

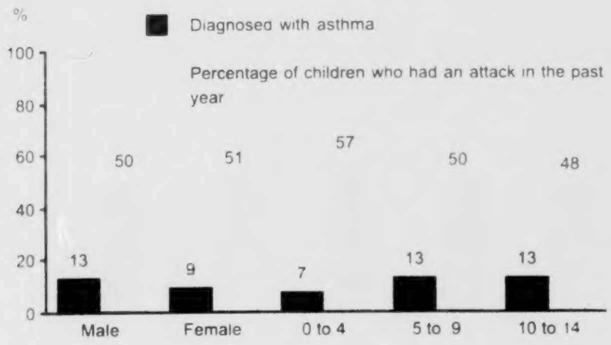


Source: CICH using Statistics Canada. 1996-1997. *The National Population Health Survey*

10 - 55

Prevalence of Asthma Among Children Birth to 14 Years of Age, by Age and Sex

Canada, Excluding Territories. 1994-1995



Source: Millar, W.J. and Hill, G.B. Statistics Canada. 1998. Childhood Asthma. *Health Reports*.

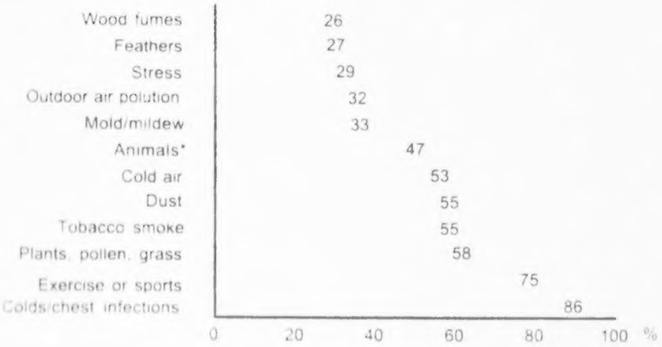
Since the 1970s, there have been substantial increases in asthma prevalence, morbidity and mortality in children of industrialized and non-industrialized countries. Recently, Statistics Canada confirmed a four-fold increase in childhood asthma over a 20-year period, with hospital admission data reflecting this increase. The report indicated that, in 1994/95, asthma prevalence among those aged 0 to 14 years, was at 11.2%, affecting about 672,000 children, whereas in 1978/79, asthma prevalence in children under fifteen was 2.5% (Millar et al, 1998). While some of this increase might be due to over-diagnosis, a number of international studies indicate a definite increase, with changes in the environment potentially contributing to this increase.

Air quality, both indoors and outdoors, seems to be contributing to a higher burden of illness from asthma and allergies. Outdoors, exposure to ground-level ozone, particulates and acid aerosols are known risk factors for exacerbating asthma. Indoors, risk factors for the development and aggravation of childhood asthma include: exposure in infancy to biological contaminants such as molds, animal dander and dust mites, and to chemical contaminants such as environmental tobacco smoke and gases from combustion appliances. Possible effects of the known influences of contaminants on fetal immune system development have yet to be explored.

10-5

Asthma Triggers Reported by Students Aged 5-19 Years With Current Asthma

Total of Health Units Surveyed, 1995-1996*



* For example: cats, dogs, birds

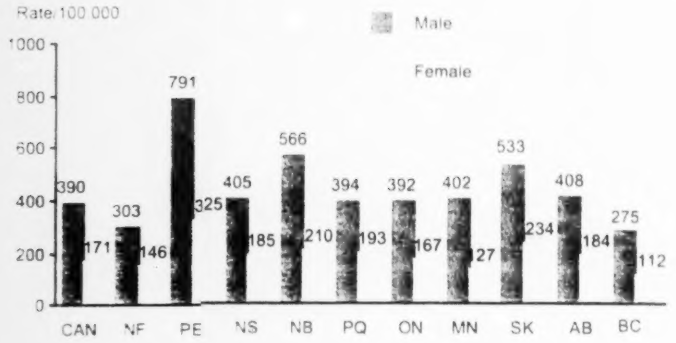
Note: Results are weighted to total health unit student population

Source: Health Canada. 1998. *Childhood Asthma in Sentinel Health Units: Report of the Student Lung Health Survey Results, 1995-1996.*

10 -

Hospitalization for Asthma, Children and Youth Aged 1 to 19 Years

Canada and Provinces, 1996-1997



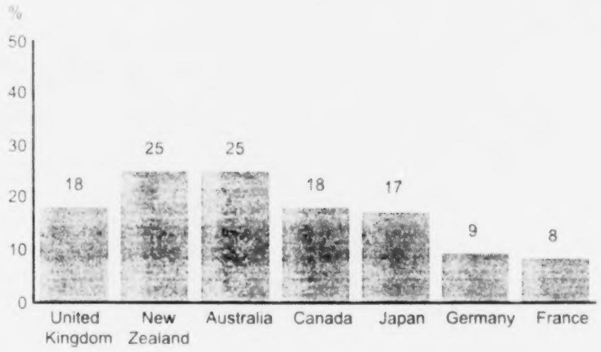
Source: CICH using Canadian Institute of Health Information data, and Statistics Canada population data, 1996-97

While it is generally agreed that observed increases in asthma diagnosis are not the result of diagnostic changes nor of changes in genetic factors related to asthma, the role of environmental factors in the increase in asthma incidence is difficult to assess. Environmental determinants are known to be important risk factors that worsen existing disease and/or exacerbate symptoms. Clear associations exist between episodes of high air pollution and subsequent hospital visits for respiratory problems. Canadian children are more likely to be hospitalized for respiratory problems resulting from exposure to air pollutants, than due to any other cause. Hospitalization is also more common for boys than girls.

The worldwide variations in rates, and, partly, the variations seen within some countries suggest that environmental factors (in their broadest sense) may be critical to the development of asthma, allergic rhinoconjunctivitis and atopic eczema symptoms in childhood. The highest prevalences for asthma symptoms are found mainly in English-speaking centres in western countries. These findings raise the possibility that environmental factors related to living conditions in these countries may be important.

10

Asthma Symptoms. Percentage of Parent-Reported Wheezing in 6 to 7 year old Children Living in Industrialized Countries
1996



Source: The International Study of Asthma and Allergies in Childhood (ISAAC) Steering Committee. 1998. *Worldwide Variations in the Prevalence of Asthma Symptoms: The International Study of Asthma and Allergies in Children (ISAAC).*

10 9

Percentage of Respondents Who Agreed/Disagreed With Feeling That They Have Control Over Health Risks
Canada,1992

	I feel that I have very little control over risks to my health (%)
Disagree strongly	22
Disagree somewhat	29
Agree somewhat	31
Agree strongly	18
Don't know/No opinion	0

Source: Health Canada. 1993. Health Risk Perception in Canada. *A Research Report to the Department of National Health and Welfare.*

Perceptions

Decisions about how to deal with an environmental risk to health must include public perception of the risk. The way people perceive risks is often subjective and intuitive; they frequently view risks in a way that differs from scientific assessments. The perception of risk depends on how often the public has heard about a hazard. For example, one study found that Canadians viewed food additives, pesticides and bacterial contamination in the food supply to be of about equal concern. This view contrasted with the scientific one that bacterial contamination is the single most serious threat to human health posed by the food supply.

Although the majority of Canadians seem to have confidence in the risk analysis process, there is a need to recognize the fundamental weaknesses in both risk assessment and risk management as tools for policy decisions. Risk management decisions are fundamentally reliant on the risk assessment exercise; therefore, only those substances which have been identified as health risks under the risk analysis process have risk management decisions made about them and become candidates for public policy. Risk assessment as a tool, as well as part of an overall policy of risk management, has been criticized on several counts. Some of these criticisms critique the approach itself, while others focus on the misuse or weakness of risk assessments in specific applications.

10 - 60

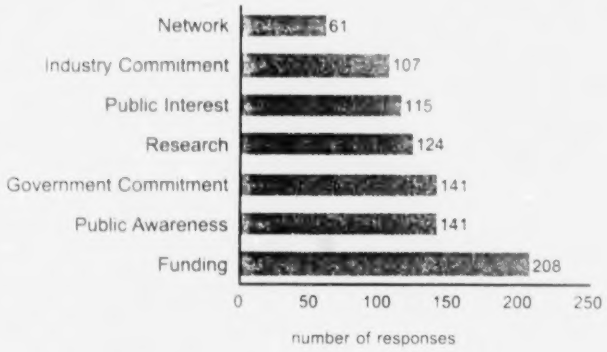
Percentage of Respondants Who Agreed/Disagreed With Experts on Risk of Chemicals in the Environment
Canada, 1992

	Experts are able to make accurate estimates of health risks from chemicals in the environment (%)
Disagree strongly	11
Disagree somewhat	25
Agree somewhat	47
Agree strongly	13
Don't know/No opinion	3

Health Canada. 1993. Health Risk Perception in Canada. *A Research Report to the Department of National Health and Welfare.*

10 - 61

Challenges to Environmental Initiatives
Canada, 1996



Note: respondents were from health groups, community groups, non-governmental organizations, government, education and business sectors.

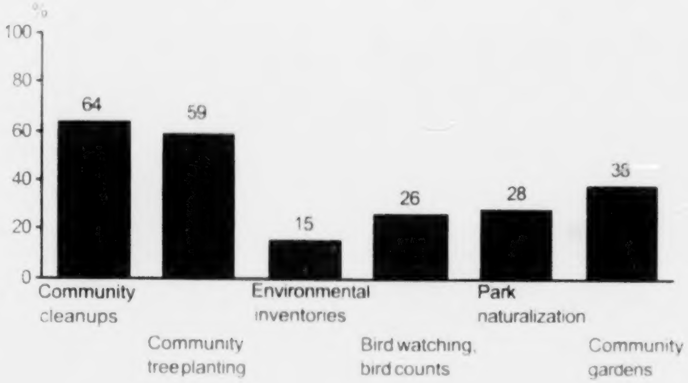
Source: Canadian Institute of Child Health. 1998. *National Survey of Communities: Environment Contaminants and the Implications for Child Health.*

Lack of funding is often cited as the greatest challenge to implementing environmental initiatives, along with lack of commitment in government and lack of public awareness. Other challenges also cited are the lack of research on hazards to children, lack of public interest and lack of commitment by industry. Despite these challenges, there is little doubt that increased public awareness of the potential harm that may result from childhood exposures to environmental contaminants will encourage public involvement and influence political discussions or allocation of funds.

Municipalities are making an effort to involve residents in environmental actions, ranging from community cleanups and pesticide reduction campaigns to bird counts. These programs help to get the general public involved in improving the local environment and also serve as a form of education. Local round tables on the environment and economy, modelled on the national and provincial round tables, bring together representatives of different interests in the name of sustainable community development. The similar aim of the "healthy communities" movement is to work with municipal governments towards the common goal of socially, economically and environmentally healthy communities. Québec, British Columbia, and Ontario all have active healthy community networks supported by the provincial governments (Environment Canada, 1996).

1 0

Involvement of Public Environmental Actions by Municipalities
Canada 1994



Note: people could indicate more than one activity

Source: FCM, 1994. In *Conserving Canada's Natural Legacy* (CDRom)

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Policy Implications

From a children's environmental health perspective, there are innumerable gaps in the knowledge base. There is an urgent need for research into the subtle yet potentially serious health effects on children of chronic exposure to a wide range of contaminants. In addition, there is a need for risk assessment and toxicology testing guidelines in order to create standards and regulations that recognize children as a special and vulnerable population.

Are We Abusing our Children's Environments?

By Dr. Trevor Hancock

"People who wouldn't dream of abusing a child think nothing of giving their children and grandchildren an environment that has been abused." Richard Jackson, M.D., Director of the National Center for Environmental Health of the Centers for Disease Control and Prevention (Children's Environmental Health Network - www.cehn.org)

The environment is perhaps the ultimate determinant of our health and the health of our children. Yet over the course of the past century we have radically altered the environment in which children develop - starting in the womb, their first environment. Today's children are born with a body burden of synthetic, persistent organic pollutants, a body burden that is added to in the first few months of breast feeding, the consequences of which will not be known for another 50 years or so. Doesn't this just seem wrong? What right do we have to conduct this experiment on newborns - and on generations yet unborn?

In Canada, we spend almost 90% of our time indoors and another 5% in our cars. In the past 50 years, we have sealed our buildings more tightly and introduced a vast array of synthetic chemicals. Roughly one-third of homes in North America are damp and this is worse among those living in poverty and is probably worse in Aboriginal communities (Miller, 1998). These problems of indoor air quality, and problems with safety and other aspects of the home and school environment, are usually worse for low income children; the children with the worst living conditions in Canada are Aboriginal children. Doesn't this sound wrong? Why are we not creating healthier indoor environments, especially for our most disadvantaged children? Not only do we live indoors most of our lives, we are also 80% urbanized. But how healthy are these urban environments? Certainly, air pollution is a major threat to children's health, as are motor vehicle injuries. Yet we have created a car-dominated urban form (which is why we spend so much of our lives in cars). How "child-friendly" are urban environments? Are there places where children can gather and play? Can they reach their friends' houses without having to be driven? Are these healthy environments for children? And if not, what are we doing about it?

Finally, we are passing on to our children and subsequent generations a much abused natural environment. Global warming and other climatic changes; depletion of fisheries, topsoil, fresh water and fossil fuels; wide-spread pollution of ecosystems and the animals that inhabit them; the destruction of habitat, the extinction of species and the reduction of biodiversity - in short, our growing ecological footprint - constitute a form of environmental abuse. Will our children curse us for the environments we leave them? Is this the legacy we wish to be remembered by? If not, what are we prepared to do about it?

Dr. Trevor Hancock is a Health Promotion Consultant with an interest in children's environmental health. He is the Chair of the Board of the Canadian Association of Physicians for the Environment.

Policy Implications

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Policy Implications

By Dr. Judith Maxwell

As the 21st century begins, Canadians are beginning to focus more attention on the way they treat children and families. As they do so, they have to confront the deep contradictions in the way this society views the paid and the unpaid work of families.

Over the past 15 years, governments have retrenched the spending which supports essential public services such as health and education, while increasing tax burdens. Meanwhile, employment has become more insecure, with a steady increase in the number of people who work in nonstandard jobs. In general, wages are not rising to cover the rising cost of living. At the same time, family ties have changed. There is more diversity, more discontinuity, and more isolation from extended family.

Families have responded to this mix of economic and social stress by working harder. Almost 63 percent of women with children under 12 are employed. Their work day and their work year are long, but not as long, generally speaking, as those of their husbands and partners. Remarkably, these families are also expected to take care of their children and frail relatives, to support young people well into their twenties, and to volunteer to sustain Beavers, Brownies, community sports, as well as school, hospital and community fund raisers. And, of course, they must attend to their own life-long learning. Then they must shop, cook, clean, chauffeur, help their children with homework from school, and do all the other essential tasks of family life.

We have created much more equality for women in the workplace. They are needed and wanted in the workplace but, as a society, we have not asked ourselves what happens to the children while both parents work. Who provides the child care? Does it provide a good developmental experience? Are parents entitled to paid leave for the care of their newborns? Are poor families receiving the income and service supports they need to do the best for their children? Do parents across all income levels have access to the public services they need for their children?

Nor have we asked what supports are needed by women who decide to forego income and work experience to stay home with their children for a period of time. In short, we do not support parents in either their paid work role or in their unpaid family role. We have been paralyzed by our own conflicting values about whether women should stay home with their children or go out to work. And it is the women and children who pay the price of our mixed feelings – in over-work, a severe time crunch, stress on their health, and insufficient investment in healthy child development.

This *Profile* of the health of Canada's children provides a comprehensive portrait of the situation as it stood at the end of the 20th century. We have much to be proud of. Most parents are heroes in the way they balance work, family and community responsibilities. But not all our children are reaching their potential, and too many show signs of distress, whether from inadequate income, ineffective parenting or unsupportive communities.

The 1999 federal Speech from the Throne and the work of federal and provincial governments on the National Child Benefit and National Children's Agenda are a sign that Canadian governments are prepared to pay more attention to the needs of Canadian children.

Here is a list of the policy gaps that need to be filled over the next several years, based on a recent Canadian Policy Research Networks release, *A Policy Blueprint for Canada's Children.*

- Little recognition of the costs that all parents bear when raising children (e.g., through a tax exemption)
- Insufficient income support for low- and middle-income families who cannot meet both the physical and social needs of their children
- Insufficient spaces for children whose parents require accessible, affordable, regulated and flexible developmental child care services
- Limited rights to maternity, parental and family leaves from employment, and insufficient protection of pensions and other benefits while on leave
- Inadequate provision of maternity, parental and family leave benefits to replace income while absent from work
- Few guaranteed provisions for flexible work hours and schedules and other arrangements that would enable parents to balance their work and family responsibilities
- Limited and uneven access to programs for child well-being and healthy development, and
- Insufficient supply of community resource centres that provide information, assessments, referrals and developmental resources for children, parents and caregivers.

Clearly, the list is long and expensive. Note that these gaps cannot be filled by governments alone. Employers and community organizations also have a significant role in this enterprise. It will take a sustained commitment over a number of years to create the comprehensive system of supports that acknowledges and enables the essential work of families – being the best they can be to ensure the best possible outcomes for our children.

Dr. Judith Maxwell is the Executive Director of the Canadian Policy Research Networks.

eleven

Children and Human Rights Legislation: Entitlements versus Privileges

By Dr. Graham Chance

While the UN Declaration of Human Rights recognized that "all beings are born free and of equal dignity," it gave minimal recognition of the unique nature of childhood. Most of its Articles refer to 'everyone', but Article 25 section 2 does note that "motherhood and childhood are entitled to special assistance" and that "all children, whether born in or out of wedlock, shall enjoy the same protection". There is no other reference to childhood, and age is notably absent from Article 2 in the list of human characteristics for which distinctions are precluded.

The Canadian Charter of Rights and Freedoms (1982) also makes no reference to children per se, either their specific freedoms or any limitation of them, except to recognize age as among the human conditions for which discrimination is specifically precluded. Neither of these declarations mentions any responsibilities which adults should or must have toward children when asserting or using their rights. In fact, Article 3 of the Charter states "Every citizen of Canada has the right to vote... and be a qualified member of a legislative assembly". Since children cannot be members of legislative assemblies, it seems possible that they were overlooked in the legislation. Their special vulnerabilities were certainly not acknowledged.

The Canadian 1991 ratification of the UN Convention on the Rights of the Child (1989) was, thus, of key importance for Canadian children. The Convention challenges its nation signatories to seek to attain benchmark behaviours towards the needs, rights and freedoms of children. As a co-signatory, the Canadian government is obliged to report on its progress toward full implementation of the Convention. In 1999, the Canadian Coalition for the Rights of Children (CCRC) reported on compliance to Convention Articles in six selected areas: education, fundamental freedoms, treatment of abused and neglected children, refugee children, children with disabilities, and Canada's response to its international obligations for children. The Articles assessed for compliance in the above aspects were Article 4, international cooperation; Articles 13, 14, and 15, which prescribe fundamental freedoms; Article 19, which requires protection from maltreatment, abuse and neglect; Article 23 in regard to the rights of children with disabilities; Articles 28 and 29, that are directed to ensuring access to education; and Article 22, which requires countries to offer protection and humanitarian assistance to refugee children. In examining these Articles, the CCRC found seven areas in which children's rights are being systematically violated and 26 situations where action is required before compliance could be said to be achieved. This lack of compliance will become clear in the relevant chapters, but one example is the lack of adequate national data on the extent of disability in childhood and of resources for children with disabilities and their families. Readers interested in pursuing compliance to the above Articles are referred to the excellent CCRC report entitled *The UN Convention on the Rights of the Child: How Does Canada Measure Up?*

But in addition to the articles mentioned above, the rights of children in Canada under the UN Convention are not fully recognized in many other ways. Article 3 requires that the "best interests of the child" shall be the primary consideration. When much of the information in the *Profile* is examined in light of this 'best interests' standard, it is clear that it has not been attained in many instances. Lack of environmental standards specifically directed to the protection of the fetus and growing child is an obvious example. Likewise, data in the chapters on school age children and youth reflect the difficulties they encounter with regard to violence and sexuality. Article 17, while recognizing the social and cultural value of the mass media, also directs States/Parties to "develop appropriate guidelines for protection of the child from information and material injurious to his/her well-being". A day spent watching television or a day surfing the Internet confirm that such injurious material is readily available to developing children, reflecting the extent to which adult rights and freedoms continue to be exercised without regard to the possible impact on the child. Article 18, while recognizing the responsibilities of parents for the upbringing and development of the child, also asks States/Parties to "ensure that children of working parents have the right to benefit from child care services and facilities for which they are eligible". Clearly, we have performed indifferently in this regard.

Article 24 recognizes the right of children to "enjoy the highest attainable standard of health". Section 'e' of this Article seeks to ensure that all segments of society, especially parents and children, are educated and supported in such basic aspects of health as hygiene, sanitation, prevention of accidents, nutrition and breastfeeding. While rates of injury have fallen over the years, the relatively high persisting rates in young children reflect the continuing attitude that the young child must adapt to the adult world, oftentimes a developmentally impossible task. Moreover, while the advantages of breastfeeding are today more widely known, as shown in Chapter 2, rates of breastfeeding rapidly diminish in the weeks following birth through lack of ongoing support for this natural process. Similarly, the record of Canadian hospitals in adopting the World Health Organization 10 Steps Breastfeeding Support Program can only be described as abysmal.

Article 26 recognizes the right of every child to benefit from social security, and Article 27 calls on States/Parties to recognize the "right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development". It also states that, while parents have primary responsibility to secure these standards, States/Parties will assist where necessary through "material assistance and support programs, particularly with regard to nutrition, clothing and housing". Yet, with over 450 food banks that served more than 700,000 individuals in March 1999 alone, with extensive dependence on clothing exchanges and donation programs for those in need, with school nutrition programs essentially dependant on non-government agencies, and with the numbers of homeless children and families increasing in large cities, it is clear that Canadian governments have much work to do before compliance to these articles is achieved.

Under Article 31, children are entitled to rest and leisure and "equal opportunities for cultural, artistic, recreational and leisure activities". Chapter 7 demonstrates that such activities are not viewed as universal entitlements in Canada, rather as privileges dependent upon adequacy of family income. As shown in Chapters 5 and 8, sexual abuse of children and adolescents is all too common, especially for those with disabilities, or who live on the street. Article 34 charges States/Parties to protect children from all forms of sexual exploitation and sexual abuse, and includes in this "protection from inducement or coercion". Among others, measures must be taken to protect them "from prostitution, unlawful sexual practices, and exploitative use in pornographic performances and materials". The apparent acceptance of high rates of prostitution as a means of survival among youth living on the street, the horrendous revelations regarding official suppression of evidence of sexual abuse of children in residential schools and of their abuse in recreational and sports activities, and the 1999 decision on the possession of child pornography in British Columbia are examples of our delinquency as a society toward children and of the consideration of adult freedoms over children's rights.

Many of the Articles of the UN Convention on the Rights of the Child challenge the age-old attitude to children that regards them solely as parental "property". This is a particular tension in North American society, reflecting attitudes that must be questioned in today's rapidly changing family demographics.

Comparison of the facts of the health of Canada's children as detailed in this edition of the Profile with the provisions for child health and well-being in the Convention is a sobering but worthwhile exercise. It becomes clear that the rights and freedoms of Canadian children are generally dependent upon the goodwill of adults. Where this fails, children often lack ready mechanisms to redress situations of concern. Unfortunately, while Canada has ratified the U.N. Convention, it is not part of domestic law, has yet to be used in Canadian Courts, and is not legally respected - all circumstances that leave many children in our society still lacking in many basic human rights.

Graham Chance
June, 2000

Open Letter

June, 2000

Canadian society needs a clear vision for the protection, provision and participation of children and youth, agreed upon by governments, communities and families. In outlining such a vision, this letter focuses on seven areas where strong policies are needed:

- children's rights and entitlements,
- families and the workplace,
- vulnerable children,
- partnership, leadership and responsibility,
- monitoring processes,
- the Precautionary Principle, and
- a civil society for children.

The picture that emerges is clear. There is a need for integrated and coordinated economic and social policy that protects children and their families, and that ensures comparable health and well-being to all regardless of socio-economic status.

> *"A language of entitlement reminds us that children's programs must be made available to children irrespective of the state of the nation's finances."*

Rights and Entitlements

Although Canada has signed the United Nations Convention on the Rights of the Child, all children in Canada do not always have their rights respected and fulfilled. Many children encounter barriers to health services, social support and education on the basis of gender, income, disability status, culture and geography. Others cannot access recreational, arts and leisure activities due to income limitations. Many children fall through the cracks due to bureaucracy and systems not designed to put the needs of children first.

The philosophy that all children have a set of rights and that some have special challenges that may need focused or targeted intervention must be embraced within any governmental children's agenda. Such an agenda would address many persistent issues of access and availability. A language of entitlement reminds us that children's programs must be made available to children irrespective of the state of the nation's finances. As other countries have exemplified [illegible]upport to children is not a privilege to be enjoyed only when times are good.

Children and youth with disabilities and their families are a telling case in point. Entitlement mandates a full-range of services for children and youth with disabilities and their families, who face on-going challenges in their daily living. All children and youth with disabilities are entitled to special care, assistance and effective services, according to their needs, including education, training, health care, rehabilitation, preparation for employment and recreation opportunities (Canadian Coalition on the Rights of the Child, 1999). Yet, such services and programs are not readily available to all the families that need them and many are vulnerable during times of fiscal restraint.

> *"All children and youth with disabilities are entitled to special care, assistance and effective services, according to their needs..."*

Workplace

Increasingly, paid employment of two earners is necessary to support a household. Consequently, lone-parents are at a considerable economic disadvantage. Income supports to lone-parents should be a policy priority. Many two-parent families also face economic hardship, particularly when one or both parents work for minimum wage. Thus, supports to low income two-parent families are also essential. Even a relatively modest level of income security can reduce physical, emotional and behavioural problems for parents and children. Economic, tax and benefit policies that affect families must recognize children's right to equity of opportunity regardless of their families' economic circumstances.

> ***"Economic, tax and benefit policies that affect families must recognize children's right to equity of opportunity regardless of their families' economic circumstances."***

According to The Vanier Institute of the Family, work and family are best conceived as interdependent, not competing, spheres. Policies and programs need to be developed to ensure that this relationship functions smoothly. A precarious and unstable situation for families at all income levels is clearly demonstrated in The Vanier Institute of the Family's report, *From the Kitchen Table to the Boardroom Table* (1998). The reality that emerges from their description is one of competition, rather than cooperation. For parents striving to provide their families with economic security, there is little time to foster the development of their children's emotional security and personal resilience.

According to the Child Care Human Resources Steering Committee, one essential complement to healthy workplace policies is child care. As a society, we should be insisting through our politicians that the scarcity of parent time be compensated in part by universally available, affordable, developmentally appropriate child care. Workplace policies and child care policies need to respond to the changing demands of work and family. Already, we have concerns that more children are looking after themselves before and after school, for longer times and at younger ages. These children may experience loneliness or fear while spending time alone and are at higher risk of injury.

> ***"As a society, we should be insisting through our politicians that the scarcity of parent time be compensated in part by universally available, affordable, developmentally appropriate child care."***

Vulnerable Children

It is now accepted that income inequity rather than low income itself is the most destructive social condition. In Canada, ranked 9th out of 17 in the 1999 Human Poverty Index for industrial countries, there are many children living in poor families and many others at risk for poverty. But many children also live in families with high incomes. Polarization of family incomes is increasing, and to reduce it will require broad policies that address many features of the socio-economic environment, including employment, income security, social support, housing, early childhood education and childcare, the physical environment and many others. Economic growth is all too often viewed as the central marker of our success as a nation. Yet economic growth that tolerates, even helps create, worsening social disparity clearly results in unhealthy communities as evidenced in many North American cities and in many rural areas where family income is under threat.

Although many children are disadvantaged by the "poverty of time" experienced by their families, some children are at especially high risk for poor health or behavioural problems because of economic hardship. The income-based gradient in health and well-being is contrary to established Canadian values. Thresholds have been identified beyond which the risk of unsatisfactory health outcomes escalates markedly. Children from families with very low incomes are more likely to have behavioural problems and to do poorly at school. To change this reality, effective policies need to be established to ensure that children living in these families have, as they are entitled to, equitable opportunity, provision and protection.

Meeting the needs of all children would demonstrate the value we place on them and would affirm our belief in their basic human rights. It would also contribute to the development of a society that is more cohesive and safe. To ignore the plight of children of very low income families and their rights is to move inexorably towards a society in which vulnerable people are disenfranchised, communities are divided and the potential for violence is a growing reality.

Recognizing thresholds and responding to the needs of the most vulnerable children is essential, but it is equally important that policy-makers recognize that the majority of children with problems do not belong to the most disadvantaged groups. This is simply because there are relatively fewer children in these groups. The majority of children live in families with middle or upper level incomes. To raise the overall quality of life for children and youth in Canada, a combination of universal and targeted approaches is needed. To reiterate, as a society, we need a clear vision and framework for the provision, protection and participation of all children and youth living in Canada.

> ***"To ignore the plight of children of very low income families and their rights is to move inexorably towards a society in which vulnerable people are disenfranchised, communities are divided and the potential for violence is a growing reality."***

"Street youth" represent a particularly vulnerable group, living outside the traditional family environment. The growing numbers of "street youth" raise serious concerns. Is our society accepting "surplus youth", youth viewed as lost and irretrievable? As a society, we recognize the potential of street youth to engage in violent behaviours, abuse drugs, participate in prostitution and other illegal activities and develop into dysfunctional adults with little chance of successful integration into mainstream society. Increasingly, punitive actions against these youth are accepted as short-term solutions and disproportionate societal resources are allocated to this end. As a society, we must create opportunities for these youth, recognize their potential to participate in and contribute to society and offer them the protection and provision that are theirs by right. Programs that focus on early intervention and on-going assistance to street youth may be far more effective and significantly less costly both in financial and human terms.

Partnership, Leadership and Responsibility

There is a welcome trend, strengthened by the Social Union Framework Agreement, towards partnerships among governments and between governments and other organizations. However, as the move to partnership is increasing, clear leadership is decreasing. Implementation of legislation and policies that do not adversely affect families and the communities in which they live is the responsibility of each element of the system. There is a need for balanced policies that support families in their multiple roles in the home and in the workforce.

Governments, at all levels, have a responsibility to show leadership in the development of a vision for children by determining which policies and programs under their jurisdictions contribute to the difficulties faced by children and their families. Policies that affect daily living, including income security, workplace, employment and leave benefits, health care, education, child care, transportation, housing and child protection are in the hands of all levels of government. Serious discussions need to be held in and between all levels of government to determine and correct aspects of policies that undermine the health and well-being of children. Piecemeal, "band-aid" solutions at the program level will not impact the increasing numbers of children in difficulty.

Serious discussions need to be held in and between all levels of government to determine and correct aspects of policies that undermine the health and well-being of children."

Change at all levels of government is needed to enable communities to provide truly supportive environments. Many excellent Canadian programs have been successful in supporting children and their families. However, we still have not built the capacity to provide support to all children who need it. For example, immigrant children and youth and their families, especially refugees, often encounter barriers which they must overcome before they are able to fully participate in education, employment and other social activities. Providing integrated and comprehensive supports at various levels must be a policy priority.

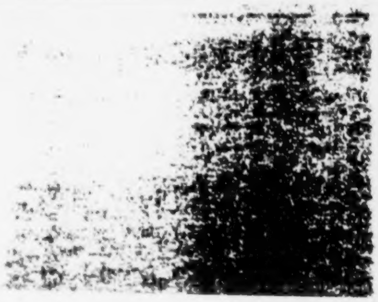
Monitoring Processes

The need for dependable information on child and youth health is shared by all levels of government as well as non-governmental organizations. While the National Longitudinal Survey of Children and Youth (NLSCY) provides an exciting opportunity to monitor the healthy development of children and youth, it provides only a glimpse into the lives of various subsets in Canada's population, such as children and youth new to Canada and children and youth with disabilities. It offers no information on Aboriginal children and youth living on reserves (and little about those living off-reserve) and cannot speak to the circumstances of children and youth not living in households. The NLSCY cohort, while a wonderful resource for investigating healthy child development in general, is not representative of all children in Canada. Additional information sources, focusing on the health and well-being of selected populations of children and youth, are needed.

"*A system which both collects and analyzes data with only limited public access and debate will always be open to question; it behooves government to support a thriving non-governmental sector.*"

There appears to be a growing trend towards governmental responsibility for the collection and analysis of data. More of the data are unavailable for public analysis, in some cases because of higher costs for data runs, making it less accessible to non-governmental organizations. A system which both collects and analyzes data with only limited public access and debate will always be open to question; it behooves government to support a thriving non-governmental sector.

A coordinated strategy is needed for measuring and monitoring health and well-being, which streamlines national, regional and community-level data. We need to make a fundamental shift in our thinking about health and health indicators and recognize the physical environment as a critical health determinant. The inadequacy of traditional indicators to report on the health and well-being of today's population must be recognized. For example, life expectancy measures tell us about the health of people born seventy years ago rather than about the health of today's younger generations. People born in the last fifty years have been exposed, throughout their lives, to a wide array of environmental contaminants, found in air, water and food. New indicators must be developed that provide us with information about our exposures and their implications.



New indicators are needed that provide information about the health and well-being of children and youth – not just their injuries, illnesses and risks of death. Better measures of school readiness would help us to monitor and assess how well children are doing in their early years. Policy development should be directed towards a multi-disciplinary team approach to in-school health and wellness. This is particularly relevant in high risk inner city and rural communities. Multi-sectoral planning that includes municipal governments should address issues such as transportation patterns affecting children as they travel to and from school. "Safe routes to school" should be a policy priority. Schools are a potential source of information on the mental health and well-being of children and the diverse special needs of children. There are currently few accessible health data that report on these concerns for school-aged children.

> *“New indicators are needed that provide information about the health and well-being of children and youth - not just their injuries, illnesses and risks of death.”*

Communities must be recognized as key players. This necessitates capacity building in communities and the promotion of civic engagement. Disorganized communities are less easily mobilized and fail to achieve the full value from opportunities. Community level data are useful in community mobilization. Nationally, we need to know what data communities already collect, how they are putting it to use and how we can improve its quality and utilization.

Hospitalization information has some untapped potential. Hospitalization data stratified by income levels would be valuable, contributing to our understanding about the relationship between income and illness and injury. Significantly, hospitalization data could be used to monitor the health of children and youth with chronic illness and conditions, through the analysis of secondary diagnoses. Such a change in approach could provide important data on this inadequately monitored group.

There is a real absence of data on children with disabilities in Canada. There are critical outstanding and very basic questions, such as the number of children, the degree of physical and cognitive ability, the limitations to active living, the impact of disabilities on the children and their families, and the supports needed by the children and their families. This information gap can only be filled by a robust survey that is part of an integrated plan that responds to the diverse and changing needs of children and youth with disabilities and their families.

The Precautionary Principle

According to the Wingspread statement on the Precautionary Principle (January, 1998), when evidence suggests that an activity may threaten the environment or human health and well-being, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. It is imperative that the Precautionary Principle underlie all of our efforts on behalf of children and youth. Whether we are examining the implications of chronic exposure to environmental contaminants or the family "time crunch" on the healthy development of children and youth, waiting for definitive cause and effect information places a generation at risk.

> *“It is imperative that the Precautionary Principle underlie all of our efforts on behalf of children and youth.”*

A Civil Society for Children

Although a strong economic foundation is essential, a vital measure of Canada's success as a nation must surely be our growth as a society that cares – a civil society. Much of the data given in *The Health of Canada's Children: A CICH Profile* illustrate that there is considerable work to be done in this regard. While governments must create policies and direct funds that support community development, creation of a civil society must come from within its constituent communities.

> *"Each community would promote the physical, intellectual, psychological, emotional and spiritual well-being of its children, and intergenerational connectedness would be the norm, supported through community-based programs."*

For children, civil communities would recognize the need for equity of opportunity based on social justice. Essential for this would be acceptance of the over-arching principle of universal access for all children to all community resources and services. Each child would be cherished for the person he or she is, while also being valued and respected for the person they might become and for their importance to the future economy. Adult society, respecting the rights of children, would not exploit them in any way. Advantage or disadvantage through accidents of birth or inheritance would be minimized, as would parental pressure to mirror their own success or to compensate for the lack thereof. Each community would promote the physical, intellectual, psychological, emotional and spiritual well-being of its children, and intergenerational connectedness would be the norm, supported through community-based programs. Acting on the Precautionary Principle, each community would endeavour to create safe and sustainable environments, demanding and developing policies and programs to reduce the ubiquitous distribution of environmental contaminants that may affect the healthy development of children and youth. Clearly, outcomes would not be equal for all children, for their abilities, achievements and contributions would vary. Outcomes would, of necessity, be measured, however, and would need to be shown to be equitable across communities.

Two other features of modern society present major challenges to a civic society, namely technological advances and improved understanding of the genetic basis of disease.

Although the Internet and television are potentially valuable sources of learning, both are fraught with pitfalls for developing minds. Both are associated with long periods of self-imposed isolation for their users. Both contain overdoses of gratuitous sex and male-dominated violence. Video games, the earnings from which exceed those of film and TV combined, are also isolating and addictive for some children and youth, who comprise their prime targets. Research into the effects of these technologies on the physical and psychological health of children and youth is urgently needed.

In regard to the new genetics, while completion of the genome project will undoubtedly be followed by exciting medical advances, there will be profound ethical implications for families and children of new understanding of the genetic basis of many common diseases. It will be vital that those affected should not be treated as, nor come to view themselves as second class citizens. Proactive study of the ethical implications of the new genetics on children and their families is imperative.

Conclusions

The first two editions of *The Health of Canada's Profile: A CICH Profile* were partially responsible for the institution of strong federal government programs and action for Canada's children. As we present this third edition, Canada's federal and provincial governments are striving to work together to improve social programs across Canada through the Social Union Framework Agreement (SUFA). SUFA represents a new contract on the financial support and delivery of social programs, a new vision for Canada. The Social Union articulates a firm commitment to collaborative working relationships between all levels of government. According to Phillips (1999), it also creates an opportunity for collaborative efforts between governments and non-governmental organizations. Currently, the key policy areas of the Social Union Framework Agreement are health, children and disability.

We believe that the data in this third edition of the *CICH Profile* demand attention and must be used to encourage urgent action in order to improve the life circumstances of all of Canada's children. We believe strong federal leadership will be essential because this action must become our national priority. With this support, communities, which collectively comprise the provinces and territories of our country, should be enabled to work toward creation of the civil society so essential to assure our children of a healthy and sustainable future in a strong and internationally responsible Canada of the new millennium.

Yours sincerely,

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Canadian Institute of Child Health
June 2000

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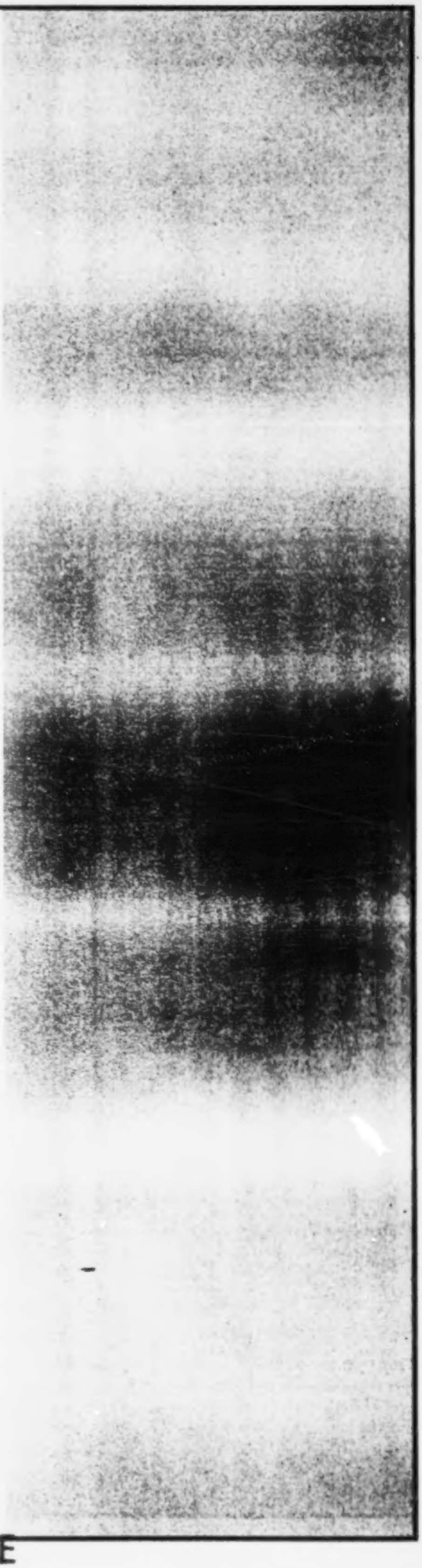

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